

Kern County Fire Department 2021 Strategic Fire Plan

Updated April 2022



UNIT STRATEGIC FIRE PLAN AMENDMENTS

[illegible]

Table of Contents

UNIT STRATEGIC FIRE PLAN AMENDMENTS	
SIGNATURE PAGE	1
EXECUTIVE SUMMARY	2
SECTION I: UNIT OVERVIEW	4
UNIT DESCRIPTION	4
UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES	7
SECTION II: COLLABORATION	8
COMMUNITY / AGENCIES / FIRE SAFE COUNCILS	8
SECTION III: VALUES	11
COMMUNITIES	12
SECTION IV: PRE-FIRE MANAGEMENT STRATEGIES	14
FIRE PREVENTION	14
ENGINEERING & STRUCTURE IGNITABILITY	16
INFORMATION AND EDUCATION	17
VEGETATION MANAGEMENT	19
SECTION V: PRE- FIRE MANAGEMENT TACTICS	22
DIVISION / BATTALION / PROGRAM PLANS	23
DROUGHT MORTALITY UPDATE	31
GRANTS	33
APPENDIX A: PRE-FIRE PROJECTS	34
APPENDIX B: UNIT GOALS AND OBJECTIVES	35
APPENDIX C: MAPS	36
APPENDIX D: IGNITIONS	42
SUMMARY	46
ANNUAL REPORT OF UNIT ACCOMPLISHMENTS	47

Unit Strategic Fire Plan developed for the Kern County Fire Department:

This Plan:

- Was collaboratively developed. Interested parties, Federal, State, City, and County agencies within the Unit have been consulted and are listed in the plan.
- Identifies and prioritizes pre-fire and post fire management strategies and tactics meant to reduce the loss of values at risk within the Unit.
- Is intended for use as a planning and assessment tool only. It is the responsibility of those implementing the projects to ensure that all environmental compliance and permitting processes are met as necessary.



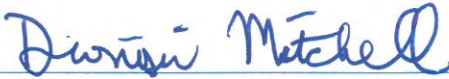
Unit Chief

Aaron Duncan, Fire Chief

Kern County Fire Department

7/8/2022

Date



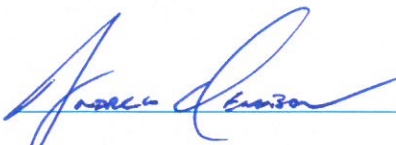
Deputy Chief

Dionisio Mitchell, Command 4 Operations

Kern County Fire Department

7-8-2022

Date



Division Chief

Andrew Kennison, Division 4 Air and Wildland

Kern County Fire Department

6.9.2022

Date

The mission of the Kern County Fire Department (KCFD) is to safeguard the people and protect the property and resources of our County.

The Kern County Fire Department Strategic Fire Plan documents the assessment of the wildland fire situation throughout the State Responsibility Area (SRA) within the county. It includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work with the local fire problem.

The goal of the Plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success.

Utilization of computer-based data and Geographic Information Systems (GIS) provides for a comprehensive analysis of fire hazards, assets at risk, and level of service to be included in the Wildland Fire Management Plan. In short, the Kern County Fire Department Strategic Fire Plan will systematically assess the existing levels of wildland protection services, and identify high-risk and high-value areas that are potential locations for costly and damaging wildfires. The Plan will then rank the areas in terms of priority needs, and prescribe what can be done to reduce future costs and losses.

Applications of the Fire Plan Framework

- Identify for state, federal, and local officials and the public those areas of concentrated assets and high risk.
- Allow the KCFD to create a more efficient wildland fire protection system, focused on meaningful solutions for identified problem areas.
- Give citizens an opportunity to identify public and private assets to design and carry out projects to protect those assets.
- Identify, before fires start, where the most cost-effective fire management investments can be implemented.
- Encourage an intergovernmental public/private approach to reducing costs and losses.
- Enable policy makers and the public to focus on what can be done to reduce future costs and losses from wildfire.
- Aid in the Maintenance of the countywide CWPP.

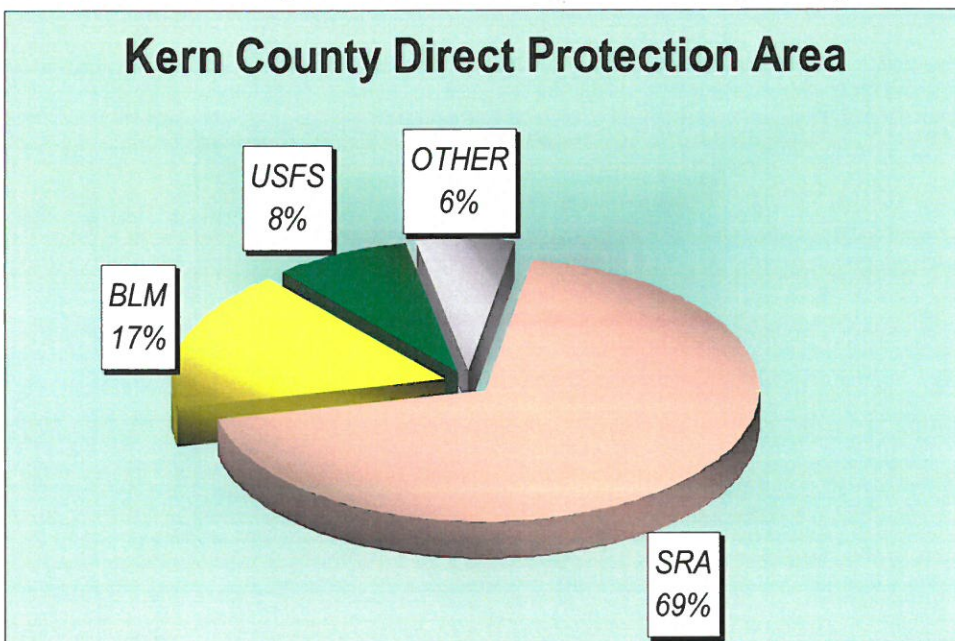
The objective of the Kern County Fire Department Strategic Fire Plan is to document the findings of the assessment and communicate the intent of the KCFD management and the stakeholders toward solving a mutually agreed on fire problem within Kern County. This fire plan would also be used to communicate with adjacent administrative units. Coordinated projects that make sense in a regional perspective, as well as a local perspective, can gain additional support. This plan will be especially helpful when explaining funding requests to control agencies, i.e., the Board of Supervisors and committees, and in explaining the Kern County Fire Department's activities to the general public.

It will aid citizen advisory groups and appointed and elected officials in preparing long-range plans that reflect local community desires for public safety, public health, public welfare, and environmental quality of life. Many areas of Kern County have more localized community plans or area plans containing safety and conservation elements. Wildland fire issues and county land use zoning and development will be considered in the Strategic Fire Plan.

The intent of this document is to have a simple, easy to understand report that gets used. Annual (or more frequent) monitoring will be included when elements of the Strategic Fire Plan are implemented. This will help determine effectiveness of the projects in reducing costs and losses to the wildland fire protection system. Monitoring will be tested against pre-project conditions and will allow for adjustments for initial attack fires. These results will be used to adjust project design and priorities over time.

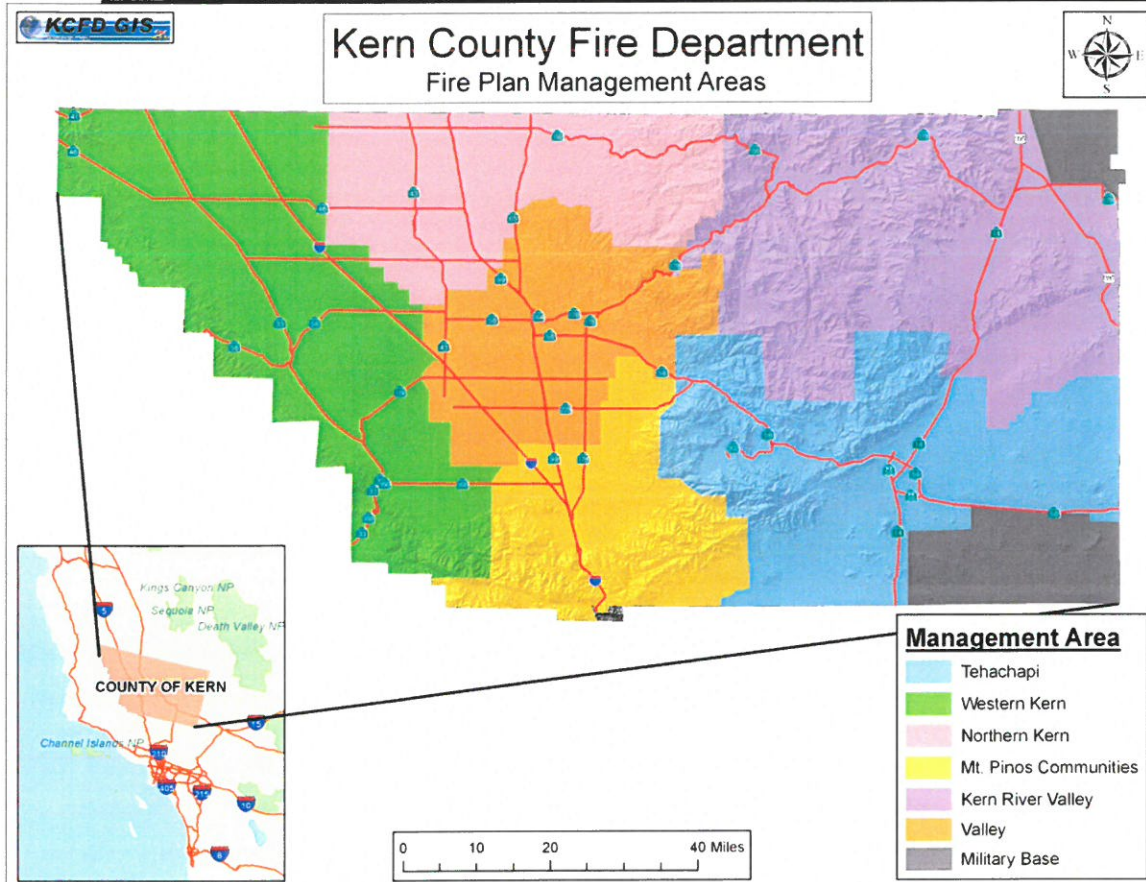
The Kern County Fire Department Strategic Fire Plan is intended to be a dynamic document that will continue to develop and evolve over time.

The Table below represents the area within Kern County that is SRA:



UNIT DESCRIPTION

The County has been broken into 6 different Fuel Management Areas:



Battalion 1 Tehachapi

OVERVIEW

Battalion 1 includes the southeastern portion of Kern County. It is divided by State Highway 58 that runs east/west and by State Highway 14 that runs north/south. The California Aqueduct, running north and south, establishes the eastern edge of the State Responsibility Area (SRA) in Battalion 1. The western edge of the SRA in Battalion 1 is defined by the toe of the slope along the southeastern edge of the San Joaquin Valley. The total SRA acreage in Battalion 1 is 951,6000 of which 351,276 acres is SRA lands. Of the incorporated cities within Battalion 1, Tehachapi is surrounded by SRA and Arvin has SRA to the south and east. The town of Rosamond has SRA to the west. There is also a substantial amount of Bureau of Land Management (BLM) Direct Protection Area (DPA) to the north and west.

The fuel models that predominate are grass (FM1 and 2), brush (FM4 and 6), and some areas of timber in the higher elevations (FM8). Additionally, there has been a substantial amount of bug kill in the larger trees in the Tehachapi, Alpine and Bear Valley Springs areas. Historically, many of the larger fires in the County have originated in this area.

However, an influx of residential development has reduced the number of large fires in recent years. The reduction in the number of fires is a positive aspect; however, the negative side of this growth is that any fires that become established in this area will immediately threaten high value/high risk exposures. A CWPP has been adopted and has been put in place to represent the communities of Battalion 1.

Battalion 2 Western Kern

OVERVIEW

Battalion 2 comprises most of the west side of the County of Kern. West of State Highway 33 and most of what is adjacent to State Highway 166 is either SRA or Federal Responsibility Area (FRA). The FRA is predominantly Bakersfield BLM with a small portion of Los Padres National Forest, with some Fish and Wildlife Service area in the Bitter Creek Wildlife Refuge. There are no large, incorporated cities within Battalion 2 that impact the SRA; however a large portion of the area is oil installations. The total acreage is 1,100,147 with SRA acreage of 455,293 acres.

The fuel model that covers most of the west side of the battalion is grass (FM1) with a scattering of brush and some oak trees. As the elevation increases in the southern and western end of the battalion there is more sage and pine (FM2).

Battalion 3 North Kern

OVERVIEW

Battalion 3 includes the north central portion of the county. Relative to the State Responsibility Area, the most important feature is State Highway 65. Highway 65 is the western boundary for most of the SRA in Battalion 3. The other main road through the area is State Highway 155 that runs east and west from Lake Isabella to Delano. To the east of the SRA in the battalion is Sequoia National Forest. There is a large portion of SRA (193,450 acres) in Station 26's area in the northwest corner of the County. The total SRA acreage for Battalion 3 is 409,566 acres. The fuel model is predominantly grass and oak trees (FM1), with some pockets of brush. Much of the area is rangeland utilized for cattle grazing, with very little public access.

There are presently no identified projects within the Urban Interface areas of Battalion 3 that would take a higher priority than projects identified in other battalions.

Battalion 5 Mt. Pinos Communities

OVERVIEW

Battalion 5 is the extreme South/South West portion of the County, bordered by Los Angeles County and Ventura County. Most of the mountain areas of Battalion 5 are sparsely populated with the exceptions of the pockets created by Lebec, Frazier Park, Lake of the Woods, Pinion Pines, and Pine Mountain Club. These communities are all located adjacent to the Los Padres National Forest. Fires that become established in or immediately adjacent to these areas will threaten lives and property in a short time.

Historically, fires in Battalion 5 which start in the grasslands reach large acreage in a short period of time. However, they are usually controlled in the first 1-2 burning periods unless there is a significant wind component associated with the spread. Fires in the higher elevations are generally much smaller, but are much more resistant to control due to the heavy fuels. A CWPP has been adopted and been put into place for the area.

Battalion 4&6 Valley/ Foothill

OVERVIEW

Battalions 4 and 6 are predominantly Local Responsibility Area (LRA) on the south and east sides of Bakersfield. There is some SRA in the eastern portion of the battalion that adjoins the Sequoia National Forest. There are 96,023 SRA acres in Battalion 4. The main accesses to the State Responsibility Area within Battalion 4 is along State Highway 58 which runs east and west through the battalion, and Breckenridge Road, which runs northeast out of Bakersfield up into the National Forest on top of Breckenridge Mountain. Within the SRA of Battalion 4, there are no towns or cities, incorporated or unincorporated, and only one subdivision of consequence.

Battalion 7 Kern River Valley

OVERVIEW

Battalion 7 includes the northeast portion of Kern County. It is a diverse mixture of Direct Protection Areas with Federal Responsibility Areas, both Forest Service and Bureau of Land Management and SRA (253,776 acres). North/south highways include State Highways 178 and 14 and the main east/west highway being State Highway 155. There are numerous unincorporated towns within the battalion, including Havilah, Lake Isabella, Bodfish, Wofford Heights, Kernville, and Southlake. All of these towns are listed by the California Fire Alliance as being at high risk to wildfire. Battalion 7 has a history of large, damaging wildfires. Included recently are the King (2000), Borel (2002; five residences lost), and the Deer Fire (2002; 47 residences lost) and Erskine (2016), with almost 300 structures lost. The Manter (2000) and the McNally (2002) Fires also burned just north of the Kern County line in this same area. The fuel models range from grass (FM1) to brush (FM4) to timber (FM8), with large areas of pinion/juniper (FM6). A CWPP has been adopted and been put into place for the area.

Level of Service

Fighting fire in Kern County is truly a cooperative effort. Kern County Fire Department provides fire protection by contract to the cities of Delano, McFarland, Wasco, Shafter, Arvin, Tehachapi, Maricopa, Taft, and Ridgecrest. Kern also cooperates fully with the other incorporated cities within the county: Bakersfield, and California City. Additionally, Kern County Fire Department actively participates in the State Master Mutual Aid system and has operating agreements with the USDA Forest Service Sequoia and Los Padres National Forests, the Bakersfield and Cal Desert Districts of the USDI Bureau of Land Management, CAL FIRE, and the Fish and Wildlife Service. The cooperation between all the above-listed agencies comprises the fire protection delivery system within the County of Kern.

The legislature has charged the California fire service with providing an equal level of fire protection to lands of similar type (PRC 4130). To do this, we must have a system to analyze the level of service being provided to the wildland areas. This rating is expressed as the percentage of fires that are successfully attacked. Success is defined as those fires that are controlled before unacceptable damage or cost is incurred.

Success Rate =

Annual number of fires that were small and extinguished by initial attack

Total number of fires

Multiplied by 100 = the success rate in percent

The result is an initial attack success rate in percentage. **For our purposes, and as defined by CAL FIRE (State Board of Forestry), any fire suppressed at less than 10 acres was considered an initial attack success.**

Available Resources	
Resource Type	Number
Helicopter Type 2/Hoist & Night Vision Capable	2
Dozer Type 2*	6
Hand Crew Type 2 IA	2
Engine Type 6	45
Engine Type 3	15
Engine Type 2x	5
Engine Type 1	36

A. Crews/Dozers can be assembled in Strike Team configuration. Two dozers staffed daily.

COMMUNITY / AGENCIES / FIRE SAFE COUNCILS

Representatives involved in the development of the Unit Strategic Fire Plan are included in the following table. Their organization and title are indicated below:

Fire knows no boundaries and accordingly, neither should a plan that seeks to reduce the risk from wildland fire. Stakeholders are defined as any person, agency, or organization with a particular interest – a stake – in fire safety and protection of assets from wildfires. The Kern County Fire Department has made a considerable attempt at involving stakeholders and many of their interests in the development of the KCFD Strategic Fire Plan. The process of identifying stakeholders and their interests is an ongoing process, and will be evaluated continuously through the evolution of future fire management plans. It is the goal of the Kern County Fire Department to participate with as many stakeholders as possible and to continually update planning efforts involving stakeholder input.

Plan Development Team:

Political Entity	Jurisdiction
Kern County Supervisors	Local Government
Bakersfield Fire Department	City Fire Protection
Ventura County Fire	Local Government/SRA Fire
Los Angeles County Fire	Local Government/SRA Fire
CAL FIRE	State
Santa Barbara County Fire	Local Government/SRA Fire
Kern County Parks Department	Local Government
Kern County Road Department	Local Government
Kern County Sheriff	Local Government
US Forest Service Los Padres	US Government
US Forest Service Sequoia	US Government
Bureau of Land Management (CDD)	US Government
Department of Fish and Game	State
US Fish and Wildlife Service	US Government
California State Parks	State
Local Community Service Districts	Local Government
Local Property Owner Associations	Local Government
Cal Trans	State
Air Pollution Control Districts	State/County
Tejon Ranch Inc.	Private
Kern Fire Safe Council	Private

Firewise Communities Program

www.firewise.org



Brush, grass, or forest fires do not have to be disasters. The National Fire Protection Association's (NFPA) Firewise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from wildfire risks.

Community Emergency Response Teams (CERT)

www.ready.gov/community-emergency-response-team



The Community Emergency Response Team (CERT) program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community. In 2017 the Kern County Fire Department appointed a permanent CERT coordinator.

Fire Safe Councils

www.cafiresafecouncil.org



Fire Safe Councils are instrumental in bringing a representative group of stakeholders to “the table.” The councils shed light on many concerns within communities and expose information relating to the effectiveness of the Kern County Fire Department’s fire safe efforts. The department is able to respond and adapt activities to address many of the concerns from the different stakeholders involved with the fire safe councils. Through the councils’ diversity, agencies have been able to develop Community Wildfire Protection Plans (CWPP) that otherwise may never have been developed.

The Kern County-Wide Fire Safe Council is established and focused on improving the resilience of Kern County’s communities to wildfire. Currently, the council is working to bring Fire Wise to our communities. The Council remains active in implementing the new county-wide CWPP and a variety of public education programs.

A: VALUES

The primary goal of wildland fire protection in Kern County is to preserve the variety of resources found within the county. The resources at risk are both public and private and interplay with one another to provide the quality of life we experience within the county. These resources include:

Structures – residential and commercial

- Air Quality – degradation due to smoke from fires
- Rangelands – loss of grazing
- Timber – loss of timber resources
- Scenic – viewscape
- Recreation – loss of recreational facilities or open areas
- Wildlife – loss of critical habitat or game
- Hydroelectric power – damage to watersheds that support plants

The value of the assets at risk determines the commitment of resources and the prioritization of program funds and projects.

There are currently 25 communities in Kern County registered as Communities at Risk by the California Fire Alliance. The threat to these communities varies from slight to extreme. Those, such as Arvin, and California City, which have an interface with SRA land in mostly uninhabited areas of the incorporated city, are slightly threatened. Others such as Bear Valley Springs, and Wofford Heights, which have most of their inhabited areas that are interface or intermix with SRA land, have an extreme risk. Other communities such as Pine Mountain Club, which is an intermix community within the Los Padres Forest are at high risk but are not officially on the California Fire Alliance list of communities at risk.

Ca Fire Alliance Communities at Risk in Kern County:

	<u>Place Name</u>	<u>County Name</u>	<u>Federal Threat</u>	<u>Federally Regulated</u>	<u>Year</u>
1	Arvin	Kern			2015
2	Bakersfield	Kern		✓	2015
3	Bear Valley Springs	Kern			2015
4	Bodfish	Kern	✓	✓	2015
5	California City	Kern	✓	✓	2015
6	Edwards Air Force Base	Kern	✓	✓	2015
7	Frazier Park	Kern	✓	✓	2015
8	Golden Hills	Kern		✓	2015
9	Keene	Kern			2015
10	Kernville	Kern	✓		2015
11	Lake Isabella	Kern	✓	✓	2015
12	Lebec	Kern			2015
13	Mountain Mesa	Kern	✓	✓	2015
14	North Edwards	Kern	✓	✓	2015
15	Onyx	Kern	✓	✓	2015
16	Randsburg	Kern	✓	✓	2015
17	Ridgecrest	Kern	✓	✓	2015
18	Rosamond	Kern		✓	2015
19	South Lake	Kern	✓	✓	2015
20	South Taft	Kern	✓		2015
21	Taft	Kern	✓		2015

22	Taft Heights	Kern	✓	✓	2015
23	Tehachapi	Kern		✓	2015
24	Weldon	Kern	✓	✓	2015
25	Wofford Heights	Kern	✓	✓	2015

A: FIRE PREVENTION

Kern County has adopted the International Wildland Urban Interface Code and has a robust Hazard Reduction program to educate the public and enforce defensible space requirements. Beginning in April our Public Information Office begins a series of media campaigns in both print and visual media to remind the public of their responsibility to ensure defensible space on their property. Also in April, letters are mailed to all property owners in the SRA to remind them of our requirements. Properties not in compliance by June 1st are assessed an administrative penalty. A second administrative penalty may be assessed after 15 days if a property remains out of compliance.

Letter mailed to all SRA residents:

Aaron Duncan
Fire Chief & Director of Emergency Services
Kern County Fire Department - Hazard Reduction
2820 M Street
Bakersfield, Ca 93308
Email: hazardreduction@kerncountyfire.org



FIRE HAZARD REDUCTION PROGRAM

Notice to Abate Fire Hazard

To all Kern County Property Owners,

In accordance with Kern County Ordinance Codes within Chapter 8.46, all Kern County property owners whose properties are located within State Responsibility Area's (SRA) are **required** to perform fire hazard reduction clearance on all property they own by **June 1st** of every year. No extensions will be granted beyond this date. Vacant lots **without** a structure within 100 feet of your property line **do not** require clearance currently.

Failure to meet these requirements by June 1 will result in a minimum \$500 Administrative Citation. If a citation is issued the owner of the property will be given 15 calendar days from the mailing date of the citation to either dispute the citation or **show proof** the violation(s) was/were corrected. After the 15 calendar day period, the property owner may be subject to an additional \$1000 fine for continued non-compliance. If you sell the property, failure to disclose this legal notice to the new owner may make you liable for hazard abatement citation fines assessed to the property.

The goal of the Kern County Fire Department's Fire Hazard Reduction Program is to protect life and property by providing an effective public education and regulation program that reduces hazards resulting from improper and/or inadequate defensible spacing. This reduction of hazards increases firefighter and public safety, as well as improves our ability to protect your property in the event of a fire.

You are receiving this notice as a courtesy reminder being sent to all property owners within the County of Kern, regarding the upcoming clearance deadline and requirements for fire hazard reduction. **This is NOT a citation and does not require any response.** If you own or are responsible for more than one property you will only be receiving one of these reminders.

It is the responsibility of the property owner to notify the Assessor's Office of any mailing or billing address changes:
<http://assessor.co.kern.ca.us/>

For more information, please visit our website at www.kerncountyfire.org and click on the Hazard Info tab to view the Hazard Reduction guidelines, Frequently Asked Questions (FAQs), **a list of Fire Hazard Reduction Service Providers for your area** and other helpful links with valuable information on how you can ensure your property will pass inspection.

Proudly Serving the cities of Arvin, Bakersfield, Delano, Maricopa, McFarland, Ridgecrest, Shafter,
Taft, Tehachapi, Wasco, and all Unincorporated Areas of Kern County

Kern County Fire Prevention inspectors play a lead role in ensuring that all new construction is built in compliance with applicable laws including Title 19 and Title 24, PRC 4291, and the International Wildland Urban Interface Code. All new development goes through the EIR process and then specific plans are inspected prior to approval. Work is then inspected during the building process to ensure that it is in compliance before final approval is given.

Pre-Fire Planning

KCFD has prepared Pre-fire plans for each of the wildland-urban interface communities with a detailed structure protection plan. Each community has evacuation instructions, a medical plan, a communication plan, and a detailed map. Pre-fire boxes have been placed adjacent to the communities and will be easily located and identified for emergency responders to utilize. A total of 46 pre-fire boxes are placed around the county. In addition, QR codes were placed on each pre-fire box and all boxes were inventoried and standardized. Each box contains a set of the detailed maps including information needed when tasked with structure protection during a wildland fire. This information includes:

A. Roads and driveways

Color Code for roads;

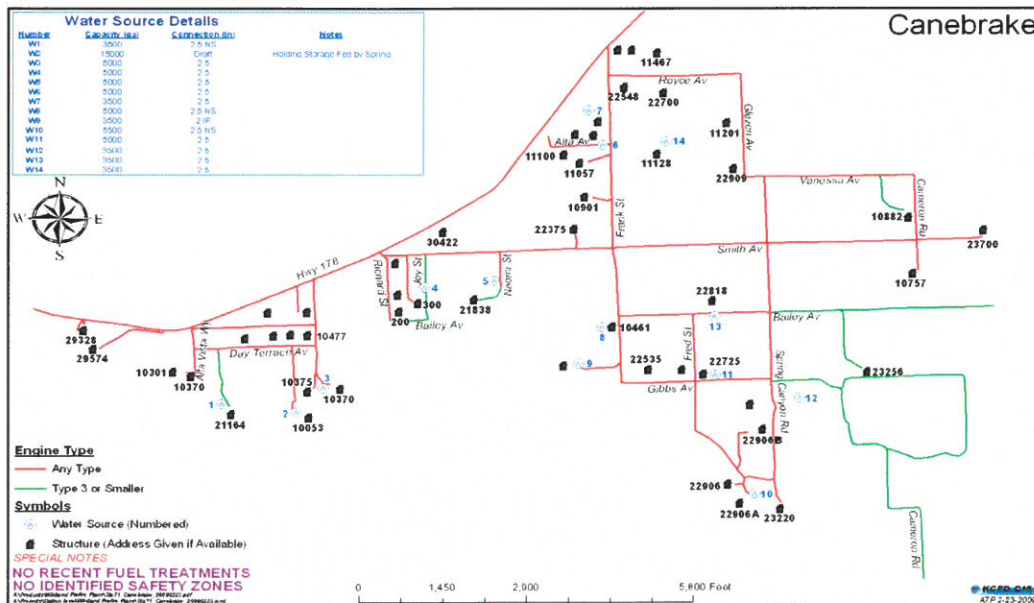
Red = any type of engine

Green = type 3 engine or smaller

Yellow = type 4 engine

Dotted Orange = mostly impassable or 4x4 only

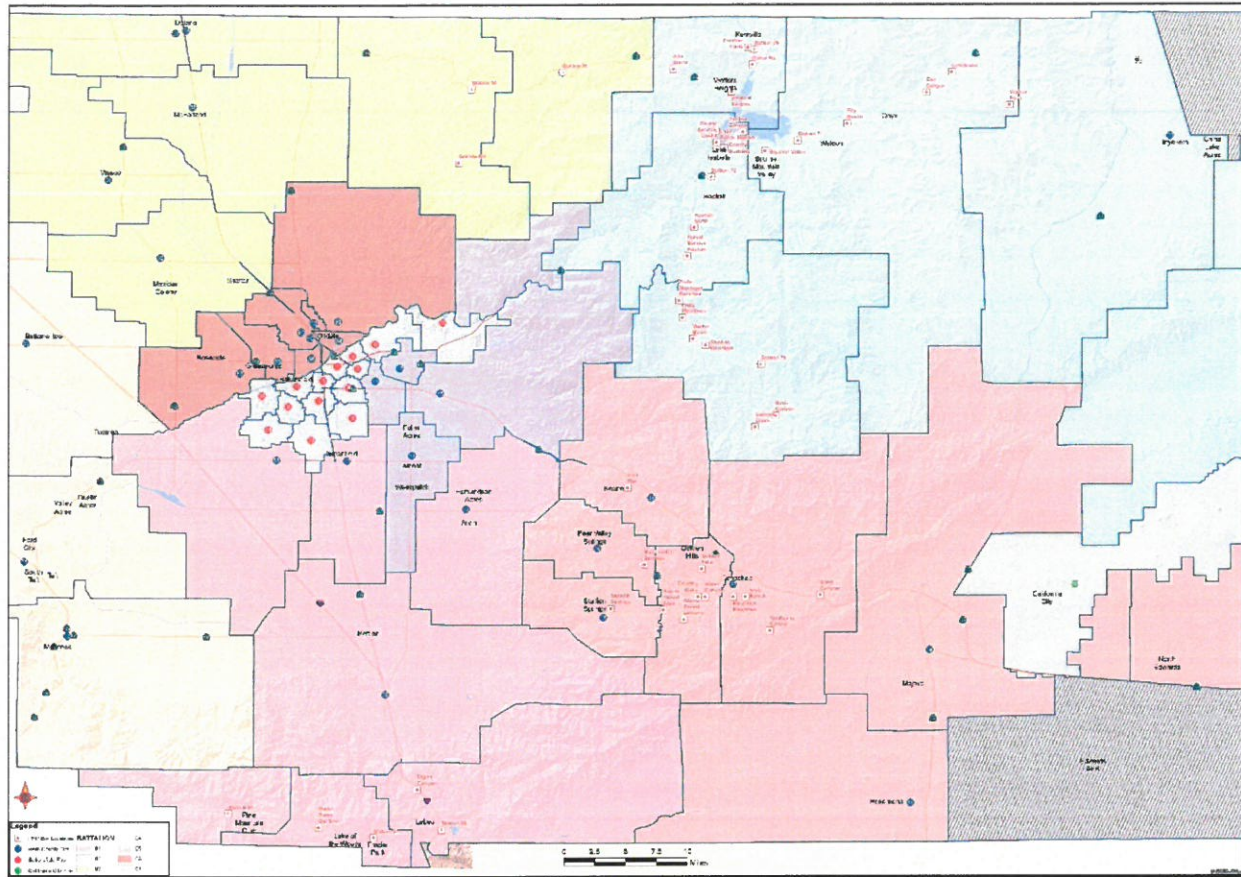
2. Road names
3. Locked gates
4. Bridges, load limits
5. Heliports & Dip sites
6. Safety Zones
7. Special hazards
8. Staging areas
9. Addresses
10. Water sources



In 2021, KCFD GIS placed all wildfire pre-fire plan maps on the Field Maps app allowing personnel in the field to access and update the maps in real time.



Kern County Fire Department Pre Fire Plan Box Locations



RAWS

Since 2005 we have been updating our fire weather collection stations. We have been able to install 8 Remote Area Weather Stations (RAWS) throughout the county. We continue working towards certifying our daily RAWS observations and standardizing our WIMS data.

Station Name	Location
KRN01	Battalion 1 (OOS)
KRN02	Battalion 1
KRN03	Battalion 5
KRN04	Battalion 7
Twisselman	Battalion 2
Grapevine Peak	Battalion 5
Hart Flat	Battalion 1
Woody	Battalion 3

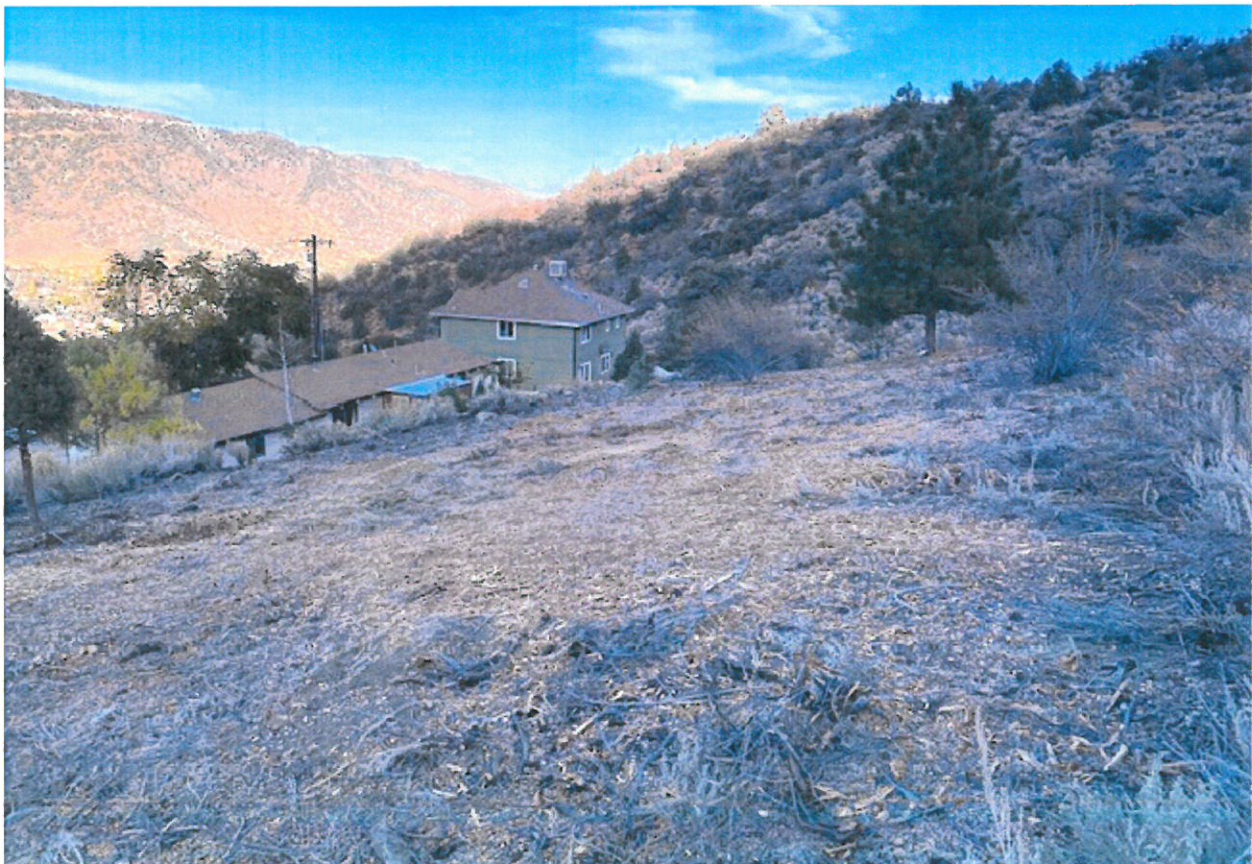
Proper management of vegetation is critical to a successful Fire Plan and Pre Fire Management. The Kern County Fire Department has been able to complete thousands of acres of fuels reduction work in and around communities at risk. These projects include shaded fuel breaks to aide with fire suppression activities, escape routes projects for safe access and egress of public and emergency equipment, and community chipper events to assist homeowners with defensible space. It is the goal of the Fuels Management Division to continue and expand this aggressive management strategy throughout the county.

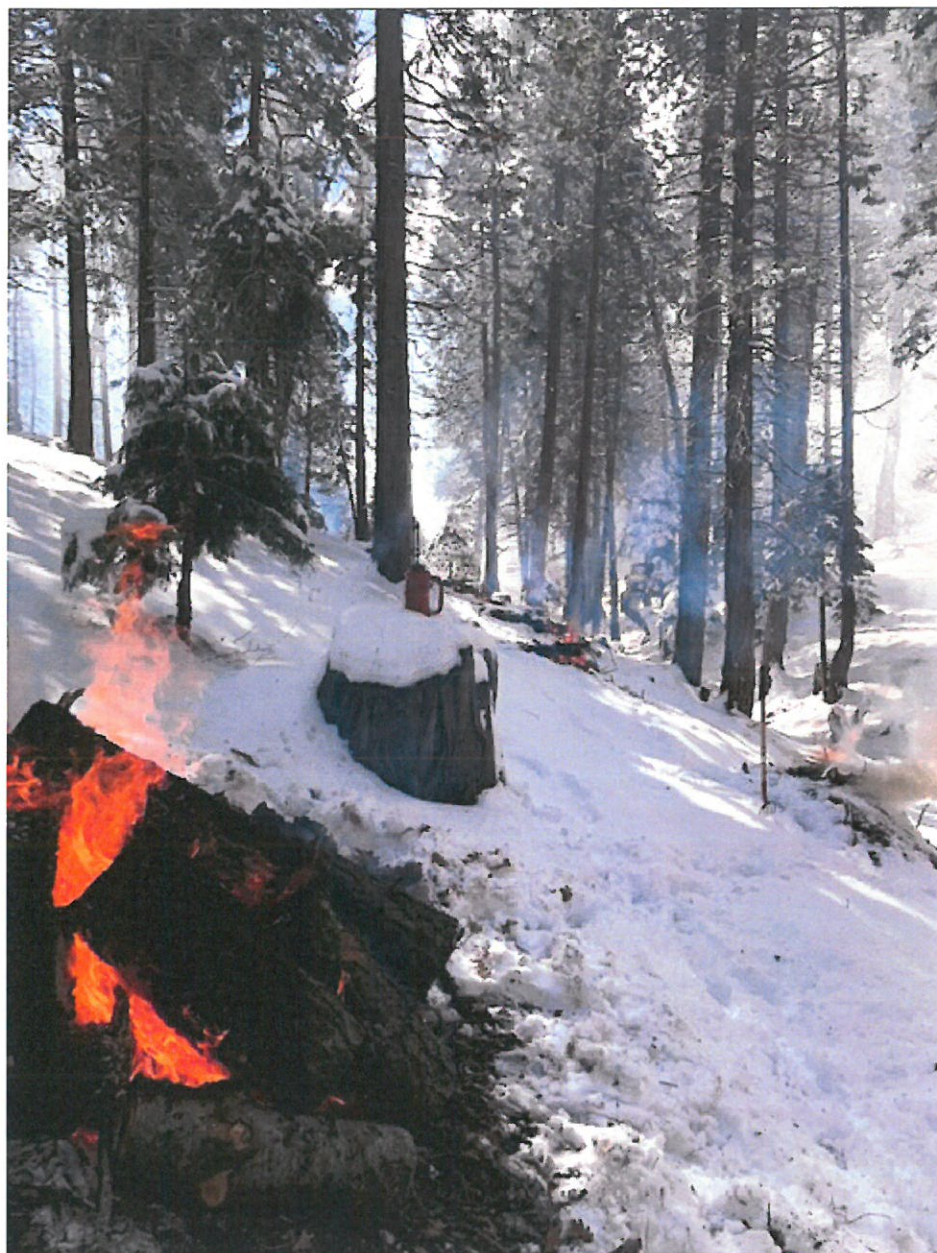
Road brushing in Battalion 7.





Crew 10 working on fuel break in Battalion 5





Pile burning Battalion 7

DIVISION / BATTALION / PROGRAM PLANS

Battalion 1 Tehachapi***Alpine Forest Park***

This community consist of a series of steep, windy roads with scattered housing. The predominant fuel model is grass and sage with some conifers and oaks. The sage is the main concern relative to fire spread and intensity. A pilot Vegetation Management Partnership Program with this community was implemented in 2011. This partnership allows for a cost sharing arrangement between the fire department and the homeowner's association to maintain fuel breaks in the community. A sanitation-salvage timber harvest was conducted several years ago so tree mortality is not nearly as bad here as in other portions of the Tehachapi's. SRAFPP money was used recently to brush the main ingress/egress roads for the community. This work was done by KCFD hand crews. Additional roads will be treated as funds become available.

West Ranch/Blackburn Canyon

This area is located southeast of the City of Tehachapi. Several large fires have burned in and around the area in the last few years. There are approximately 65 homes in the area that are served by narrow, twisting dirt roads with entrance/exit to the community made through two locations, one to the north, the other to the east. The most significant fire threat feature of this area is the volume and condition of the vegetation. The fuel models range from grass to brush to heavy concentrations of trees (oaks, pinions, gray pine, and others). There is substantial tree mortality in this area due to a combination of fires, bug kill, and dwarf mistletoe. There is a significant volume of hazardous fuels reduction work that needs to be done in this area. The residents that live in the area on a full-time basis are making progress toward reducing the total fuel volume; however, there are large numbers of absentee landowners that are not as committed to the fuel reduction. The number one priority for this area would be to reduce the number of dead and down trees that constitute a major portion of the existing fuel load. Secondly, establishing a system of shaded fuel breaks would reduce the intensity and spread rate of any fire that became established. Improving ingress/egress also needs attention in Oak Creek Road area.

Hart Flat

On an annual basis the community receives some pre-suppression protection through the maintenance of a fuel break that runs along the south side of eastbound Highway 58. This break inhibits fires that start on the freeway from spreading uphill into the Hart Flat community. Brushing roads to improve ingress/egress is done periodically. An extensive Chipper Days program was implemented last year. The community of Hart

Flat has been very supportive of Fire suppression, and with their own resources have provided three helicopter water dip tanks.

Bear Valley

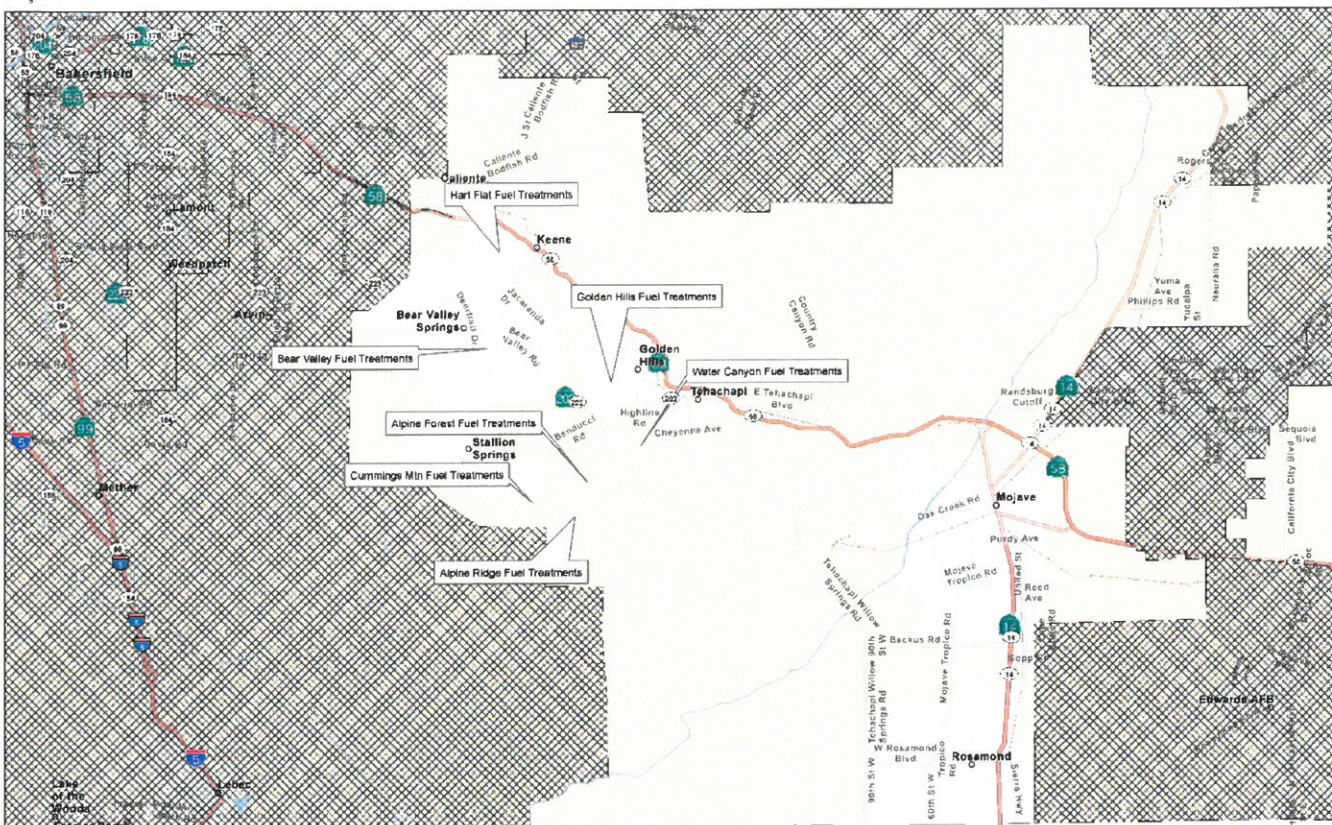
Bear Valley Springs has been the hardest hit area in Kern County in regards to tree mortality. Approximately 1,000 acres of the upper reaches of the community have been hit by bark beetles, resulting in mortality rates approaching 100 % in some areas. Several SRA FPF projects have been completed in the area to remove trees along ingress /egress routes and trees that are within reach of homes. However, many more dead trees remain and funding to remove these trees remains an issue. The Community Services District was recently awarded a CCISRAFP grant in excess of one million dollars. This will help tremendously with fuel reduction efforts related to tree mortality. KCFD hand crews brushed a main ingress/egress road in 2019 and 2020 using SRAFP funds. Additional roads will be treated as funding becomes available. There is still a substantial volume of work that could be accomplished in the Sycamore Canyon area and other areas identified in the Bear Valley Springs Fire Safety Plan.

Completed Fuels Management Projects for the area include:

- Deer Trail Fuel Reduction Project
- Bear Valley Springs Home Protection Project
- Skyline Fuel Break
- Golden Hills Phase 1&2 Fuel Breaks
- Alpine Forest Park Road Clearance
- Water Canyon Escape Route
- Stallion Alpine Fuel Break
- Old West Ranch Escape Route
- Wild horse Ridgeline Fuel break
- Tehachapi Mountain Park Defensible Space
- Hart Flat Escape Route
- Community Chipper Events
- Bear Valley Road Brushing



KERN COUNTY FIRE DEPT
BATTALION 1 FUEL TREATMENTS MAP



Battalion 2 Western Kern

Completed Fuels Management Projects for the area include:

- Maintained Fire Roads
- Dozer Disc Breaks

Battalion 3 North Kern

Completed Fuels Management Projects for the area include:

- Maintained Fire Roads
- Dozer Disc Breaks

Battalion 5 Mt. Pinos Communities

Digier Canyon

Digier Canyon is a predominantly residential area north of Lebec on the west side of Interstate Highway 5. The subdivision is partially within the Los Padres National Forest, with Fort Tejon State Park on the south and Wild Wolves Preserve on the west. The only access/egress is on Digier Rd. The subdivision is comprised of approximately 30 structures, both commercial and residential. The fuel model is predominantly grass and oak trees (FM1) with a scattering of brush. The main fire concern with Digier Canyon is not the fuel, but with the egress issues and its proximity to fires starting on I-5. The priority project for this area would be to clear the ingress/egress route and to explore options for secondary egress or the development of a community safety zone.

Frazier Park (south side)*

Frazier Park is a series of streets that hop and skip from one location to another, apparently with little or no planning/development standards or guidelines. Many of the dirt roads have brush intruding into the right-of-way and little maintenance has been done. The fuel types range from grass and light brush mixed with conifers (FM1) to heavy brush (FM4). Around the south side of the subdivision is predominantly brush with scattered pines and juniper, and some oak. An SRA FPF grant was used to construct a shaded fuel break around the south side tying into Frazier Mountain Park Road on the east and west sides. This break is approximately 100' wide, providing a buffer for the subdivision from a fire approaching out of the forest or a fire emanating from the homes spreading into the forest. This was completed in 2017. This project was extended and maintained in 2020 using SRAFPP funds.

Pine Mountain Club*

Pine Mountain Club is a planned community surrounded by the Los Padres National Forest. It has approximately 3,000 parcels. Approximately 2,000 of these parcels have been developed. For the past five years the Kern County Fire Department has been performing hazard reduction inspections in Pine Mountain Club. The fuel loading is heavy, dominated by live oak, sage, and pine. KCFD and LPF personnel and the Property Owners Association have made great efforts, but the sheer volume of material has made for slow progress. The KCFD received a grant from the USFS in early 2017

to treat hazardous fuels in this area over the next several years. CDAA and LTM grants were used to remove dead and dying trees along county access roads in 2018. Removing dead and dying trees and improving ingress/egress continue to be priorities. Existing fuel breaks are due for maintenance and there is a need for additional new fuel breaks.

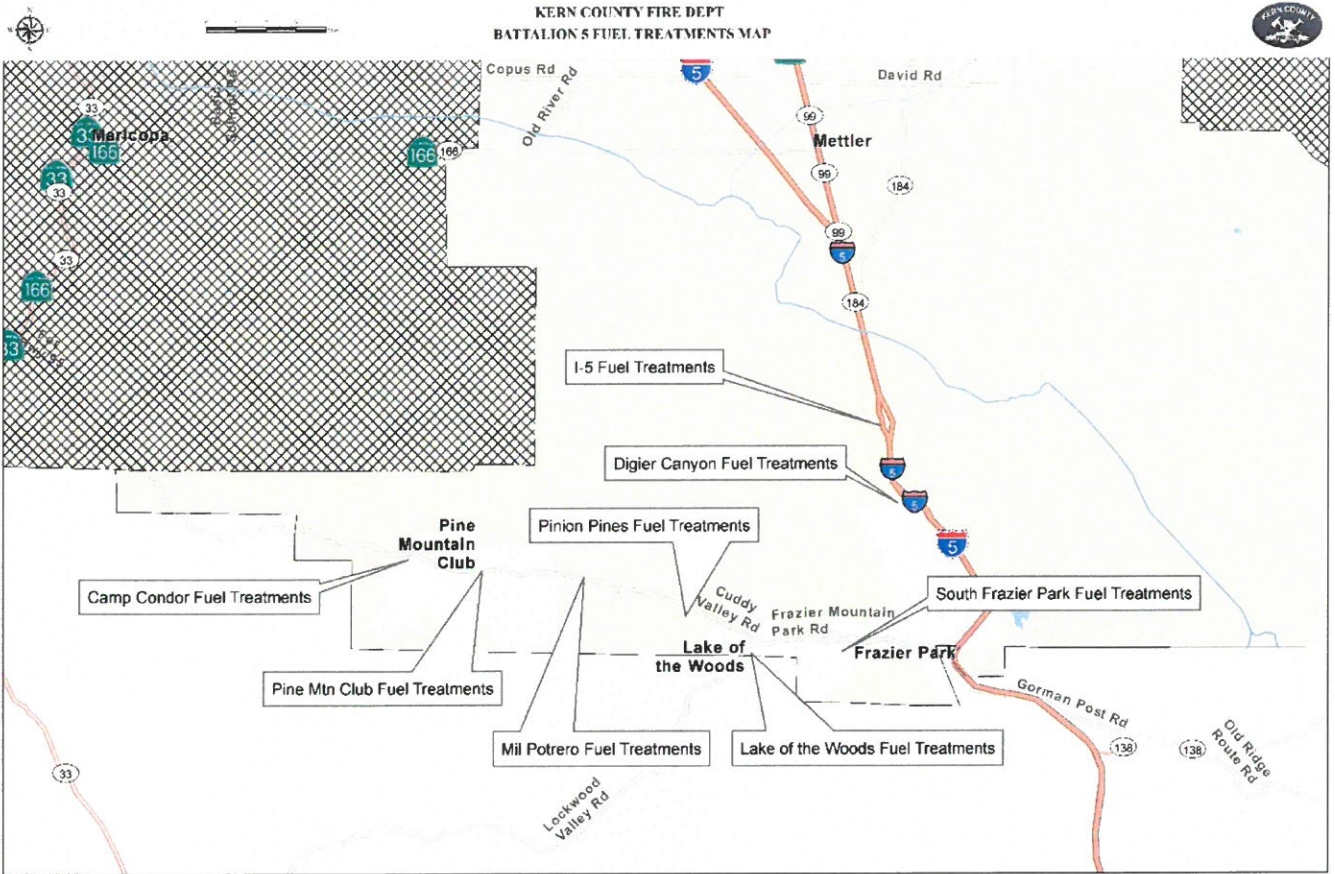
Pinion Pines*

Pinion Pines is a small community between Frazier Park and Pine Mountain Club, surrounded by Los Padres National Forest. In 2006 a wildland fire destroyed one home and damaged another. This incident raised local awareness to the dangers of current fuel conditions. Residents have been fairly active in projects around their homes. A shaded fuel break was constructed and has been maintained around the community of Pinion Pines, most recently with an SRA FPF grant and SRAFPF funding. Annual Chipper days are coordinated with the community and carried out by Kern County Fire Crews.

*SRA within LPF DPA – USFS has wildland fire protection responsibility; KCFD has fire protection responsibility for structures and improvements

Completed Fuels Management Projects for the area include:

- Hazard tree removal along all county roads and in Camp Condor (2018 CDAA and LTM)
- Frazier Park Community Fuel Break
- Lake of the Woods Community Fuel Break
- Pinion Pines Community Fuel Break
- Camp Condor Escape Route
- Pine Mtn. Club open space Fuels Reduction
- Pine Mtn. Club Ridgeline Fuel Break (west end)
- Digier Canyon Escape Route
- Mt. Pinos Phase II Fuel Reduction Project



Battalion 4 & 6 Valley/ Foothill

Breckenridge Subdivision

The Breckenridge subdivision is entirely within the boundaries of the Sequoia National Forest. It is comprised of between 35-40 cabins, with very few full-time residents. The fuels are a timber model (FM8) with heavy concentrations of down, dead fuel resulting from recent heavy tree mortality. Access to the subdivision is also an issue in that the paved portion is single-lane, paved forest road with dirt roads within the subdivision itself. The priority project for this area would be a general reduction of the accumulated dead and down material that is pervasive throughout the subdivision. The private properties within the subdivision are intermixed with USFS land. This creates a problem in that the private lands have had some clearing done but are immediately adjacent to USFS property, which has had no treatment. A project to reduce the fuel loading within the boundaries of the subdivision would require close coordination between the property owners and the National Forest. Additionally, a general widening of the roads within the subdivision would provide better access to the cabins and the water tanks. CDAA and LTM grants removed the dead and dying trees along Breckenridge Road in 2019.

Completed Fuels Management Projects for the area include:

- Maintained Fire Roads
- Dozer Disc Breaks
- Hazard tree removal

Battalion 7 Kern River Valley

Alta Sierra – SRA within SQF DPA

Alta Sierra is within the boundaries of the Sequoia National Forest. Tree mortality has been heavy, especially on the USFS lands. On the private parcels the utility companies have removed many of the dead trees. An SRA FPF grant was used to remove more of the dead trees in 2018. The County Park was salvaged logged in 2017 and the resulting slash was treated by KCFD crews with the help of CCC crews. In September 2015, KCFD hand crews completed a federally funded 9.5 acre fuel reduction project around Camp Yenishante which borders the community of Alta Sierra.

A Type 6 engine has been located in the area since 2012 and will be staffed with one permanent and two seasonal firefighters. From June 1st until Sept 30th the Type 6 will be stationed in Alta Sierra and respond to emergency calls as needed. This crew also maintains fuel breaks and helps residents chip brush in the immediate area.

Several CDAA and LTM grants were used to remove dead and dying trees on all County roads in the area in 2019. A CCISRAFP grant was also obtained by the KCFD to do fuel reduction work in and around the community over the next several years.

Isabella Highlands

This area is west of Lake Isabella at the top of a narrow, steep, twisting one-lane road. It has been a victim of wild fire on a number of occasions, most recently June of 2003, with the loss of five homes. The roads within the subdivision are also narrow and encroached by vegetation throughout the area. Improving and maintaining ingress/egress is a priority. There are additional needs within the community. Street signs, house numbers, and water source identification are among the current needs.

Frontier Homes/Rogers Road

This area is west and immediately adjacent to Kernville. Rogers Road serves about a dozen homes and leads up to the Frontier Homes subdivision. Frontier Homes has a north side and a south side. A single-lane, dead-end road serves each side. The fuel load is mainly grass with scattered California gray pine. Some pockets of brush exist in the drainage bottoms and/or on north aspects. The main threat to this subdivision is not from the fuel within the subdivision, but from the neighborhoods below. The Rogers Road area presents one of the hazards to the Frontier Homes area. Fuel breaks surrounding the community were improved in early 2019 with funding from a CCISRAFP grant.

Upper Bodfish/Meyers Canyon

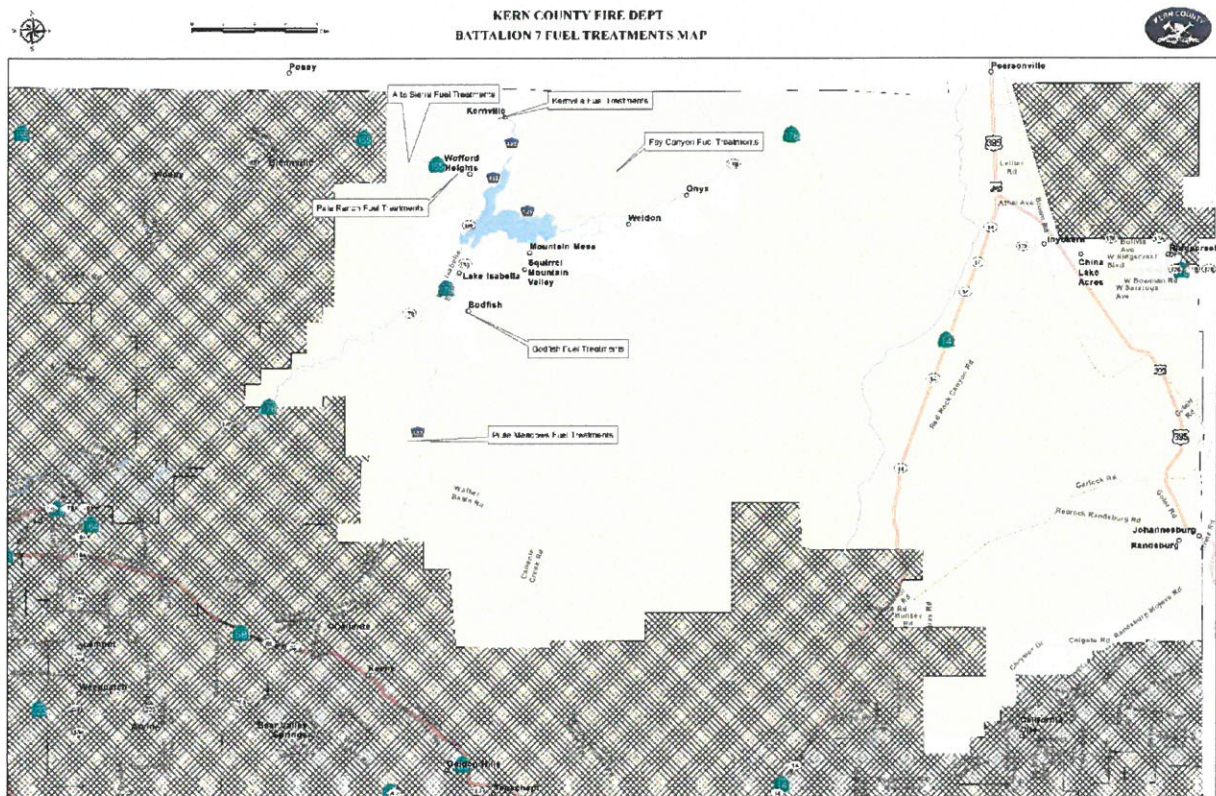
The upper Bodfish/Meyers Canyon area has a history of frequent fires, some of which have become quite large. The "Bodfish" fire in 1984 grew to greater than 35,000 acres. The fuel models in the area vary from grass to heavy brush to trees. The property owners have done a great deal of work; however, there are a large number of parcels that are owned by out-of-area owners. These properties represent a large fire hazard and it has been difficult to achieve successful hazard reduction code compliance. Fuel breaks surrounding the community were improved in early 2019 with funding from a CCISRAFP grant. More work is expected in this area with this grant, including an extension of the Bodfish fuel breaks up towards the Piute Mountains.

Fay Canyon/Weldon/Kelso Valley

There are numerous homes located in several small communities in the area. Vegetation types range from grasslands, chaparral, oak woodlands, and riparian habitat, with conifer forest to the north and south. Many homes have only one road for ingress and egress. Creating fuel breaks and improving ingress/egress will be the priorities in this area.

Completed Fuels Management Projects for the area include:

- Bodfish Phase 1, 2, and 3 fuel breaks
- Bodfish Canyon Escape Route Phase 1-3
- Kernville Community Fuel Breaks
- Hungry Gulch/Isabella Highlands Defensible Space
- Alta Sierra Defense Zone/ Timber Harvest/ Escape Route
- Piute Meadows Escape Route
- Pala Ranches Community Fuel Break
- Squirrel Valley Fuel Break
- HWY 155 Fuels Reduction Project
- Frontier fuel break



2020 KERN COUNTY DROUGHT MORTALITY UPDATE

Tree mortality has returned to normal rates throughout Kern County, but many dead trees remain in our mountain areas.

Battalion 1 (Tehachapi area)

The area most heavily impacted and of greatest concern within Kern County is the upper portion of the Bear Valley Springs community, located on the southeast flank of Bear Mountain, west of Tehachapi. Over 1,000 acres of pine forest, consisting of 1 to 80 acre private parcels, have been affected. Small patches of trees infected with dwarf mistletoe and black pine leaf scale began dying in the spring of 2015. Bark beetles spread rapidly from these areas into the overstocked stands of pine throughout the remainder of 2015 and into 2016. Mortality approached 100% over much of the area. Numerous homes valued up to \$1,000,000 are located throughout the affected area. The utility companies have removed hundreds of trees that threatened their lines. Using SRA FPF funding, a Licensed Timber Operator began work in mid-May 2015 removing larger trees along the main ingress/egress road. KCFD hand crews followed, removing the smaller trees and treating the slash. Work on another SRA FPF grant in 2017 removed trees from within 300 feet of homes. Although mortality has returned to normal rates, thousands of dead trees remain. The Bear Valley Springs Community Service District was recently awarded a CCISRAFP grant to help with this problem. Work is scheduled to begin in 2021. An SRA FPF grant was used to remove dead trees, treat fuels, and create a shaded fuel break on the ridge above Alpine Forest Park, utilizing the KCFD masticator and hand crews.

The rest of the Tehachapi range shows varying degrees of dead and dying trees. Scattered mortality is evident in the white fir on the north-facing slopes. Pockets of dead pine up to 20 acres in size are present on the Tejon Ranch. Smaller patches of dead and dying pine, many related to pockets of dwarf mistletoe and/or low sites, can be found throughout the region.

Battalion 5 (Frazier Park and Mt. Pinos area)

Recent tree mortality in this area is not as heavy as the other forested portions of Kern County. KCFD Crew 10 Golden Empire and USFS crews fall hazard trees throughout the year. KCFD hand crews may be used on both of these

projects. A CDAA/LTM project removed all hazard trees threatening county infrastructure in 2018.

Battalion 7 (Mountains surrounding Lake Isabella)

Tree mortality rates in this region are highest in the Greenhorn Mountain range. Large numbers of dead Ponderosa pine, sugar pine, and incense cedar, and to a lesser extent white fir, are distributed throughout the range, with mortality approaching 90% in many spots. The majority of the area affected is US Forest Service land, including several tracts of summer homes. The community of Alta Sierra and the Greenhorn Mountain Park campground are SRA lands also threatened by the massive die off. Also of concern are dead trees along the ingress/egress routes, both USFS and County roads, and State Highway 155. Cal Trans removed trees along Highway 155 in 2017-18. An SRA FPF grant was used to remove dead trees within 300 feet of homes and roads within the Alta Sierra subdivision. The County Park was salvage logged in 2017. CDAA and LTM grants were used to remove trees along all County infrastructure during 2019.

Breckenridge Mountain also has a large number of dead and dying trees, again primarily on USFS land. There is a small community and some SRA land located northwest of the lookout. Removal of trees in and around the structures and along the USFS access roads are the priorities. There is a great deal of pine mortality south and east of the lookout above Walker Basin. Although some of these trees are on SRA lands, treatment would be very difficult due to limited access and steep slopes. CDAA and LTM grants were used to remove dead trees along Breckenridge Road in 2019.

There is a great deal of pinion pine mortality on federal lands in the vicinity of Walker Pass.

There is scattered mortality on USFS lands in the Piute Mountains and in that portion of the Kern Plateau located within Kern County. Dead trees along County Roads were removed in 2019 with CDAA and LTM grants.

GRANTS

The Kern County Fire Department has completed the following SRA FPF grant projects and SRAFPF funded projects:

2015/16:

Deer Trail Fuels Reduction Project
Alpine Ridge Fuels Reduction Project
Battalion 5 Communities Fuel Reduction Project

2016/17:

Purchase of a tracked chipper
Bear Valley Springs Home Protection Project
Alta Sierra Hazard Tree Project

2017

SRAFPF funding was used to create the Water Canyon Emergency Escape Route above Tehachapi

2018

SRAFPF funding was used to improve ingress/egress in the Alpine Forest Park subdivision and to reduce a huge backlog of pile burning throughout the County

2019

SRAFPF funding was used to brush roads in Bear Valley Springs and to complete the fuel break in Pinion Pines. This funding was also used to extend crew members to help with more pile burning. An ASV was obtained with a CCISRAFP grant and was immediately put to work.

2020

SRAFPF funding was used to complete the Bear Valley Road Brushing Project. SRAFPF funding was also used to improve and maintain the South Frazier Fuel Break. SRAFPF funding was also used to fund Winter 2020 burning projects.

2021

Alta Sierra Fuel modification Project complete. Kern River Valley Community Protection Project complete.

Work continues on the following CCISRAFP grants:

2020/21:

Wheeled Chipper
Skid steer masticator
Fuels crew supplies
Kern Fuel Break Maintenance
Kern County Chipper Days

APENDIX A: PRE- FIRE PROJECTS

[Return to Table of Contents](#)

- Maintain and improve ingress/egress throughout our rural areas. (O) (M)
- Create new fuel breaks and maintain existing ones throughout the county. (O) (M)
- Coordinate with the Los Padres National Forest for their Cuddy Valley and Tecuya Ridge projects, perhaps through the Good Neighbor Authority. (A)
- Explore opportunities with the Sequoia National Forest to use the Good Neighbor Authority or other funding sources to conduct mutually beneficial projects. (P)
- Work with the Los Padres National Forest to continue fuel break maintenance projects adjacent to National Forest lands. (O)
- Continue work on CCISRAFP grants in Alta Sierra and the Kern River Valley. (M+)
- Continue to explore options to treat the I-5 corridor between the Grapevine and Fort Tejon and the White Wolf area. (O)
- Try to overcome obstacles (staffing, funding, weather, air quality, etc.) and increase the use of prescribed fire in the County. (P)
- Increase collaboration with stake holders through the Kern Fire Safe Council, Resources Conservation Districts, etc. (O)

Status Guide: A = Active, P = Planning, C = Completed, O = Ongoing, M = Maintenance.

The overriding mission of the Kern County Fire Department is to safeguard the people and protect the property and resources of Kern County. This is accomplished by being the leader in providing fire protection, fire prevention, other emergency services, and working to enhance our natural resource systems.

The values which we strive to fulfill include:

- Service: The safety and well-being of the public and our employees are paramount.
- Cooperation: Make every effort to build collaborative relationships with the public, other agencies, and other stakeholders.
- Protection: Always promote integration of prevention and protection.
- Organizational excellence: Strive to be the best.
- Innovation: In all departments, at all levels.
- Communication: With the public, our employees, and other agencies.
- Optimal performance: In the face of emergencies and disasters of any scale.

GOAL: Improve Core Capabilities

Objectives:

- Analyze and integrate core operations
- Evaluate and improve emergency response capabilities

GOAL: Enhance Internal Operations

Objectives:

- Streamline to maximize effectiveness
- Improve internal and external communications
- Improve operational efficiencies
- Manage fiscal challenges to ensure adequate funding for critical programs

GOAL: Ensure Health and Safety of Employees

Objectives:

- Promote mental and physical fitness
- Continue to promote safety of employees and members of the public

GOAL: Build an Engaged, Motivated, and Innovative Workforce

Objectives:

- Recruit, train, and retain employees of the highest quality

These categories are not intended to exclude Units from addressing priority objectives in any of the three categories, they are only recommendations.

Figure A: Unit Map

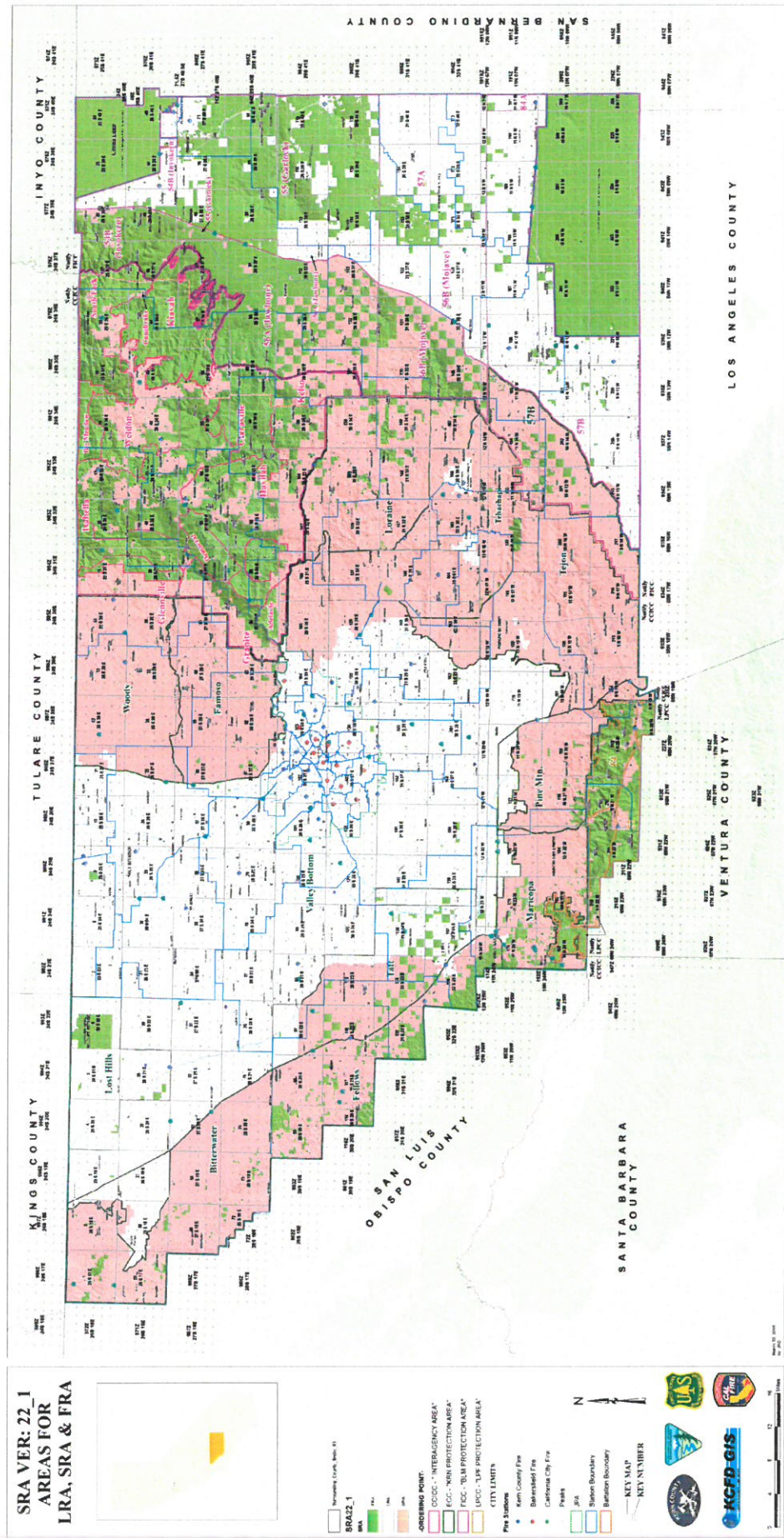
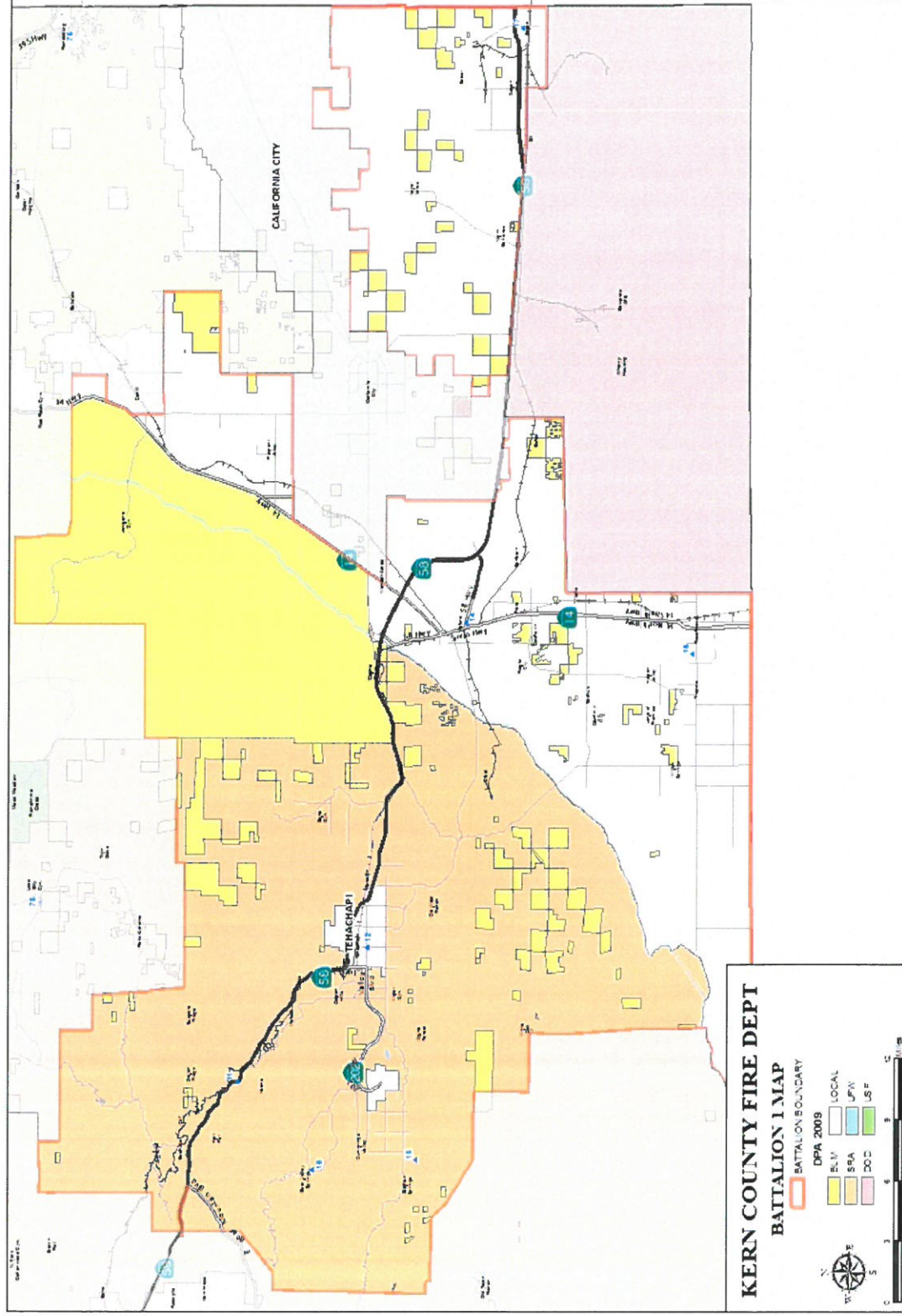
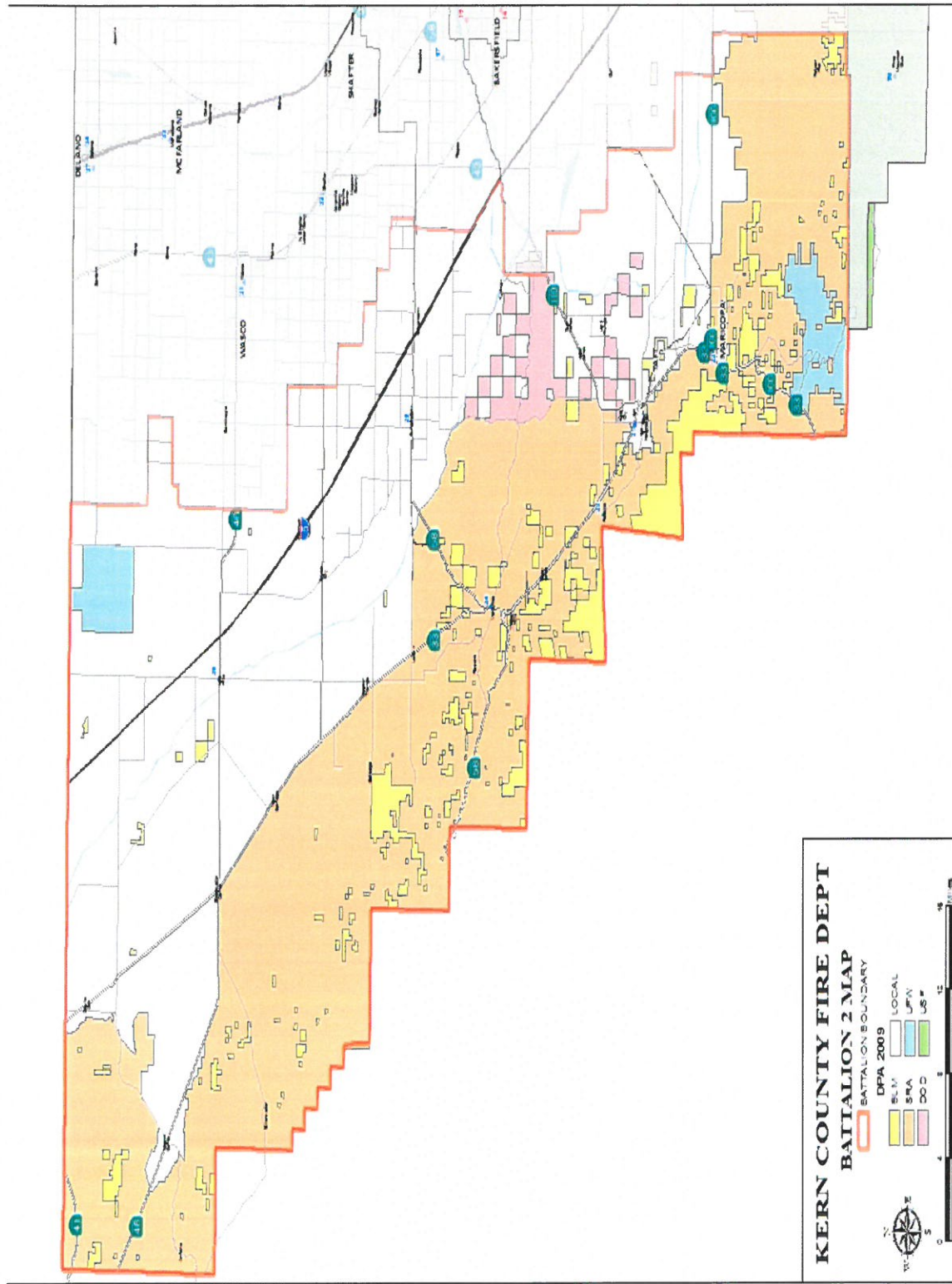


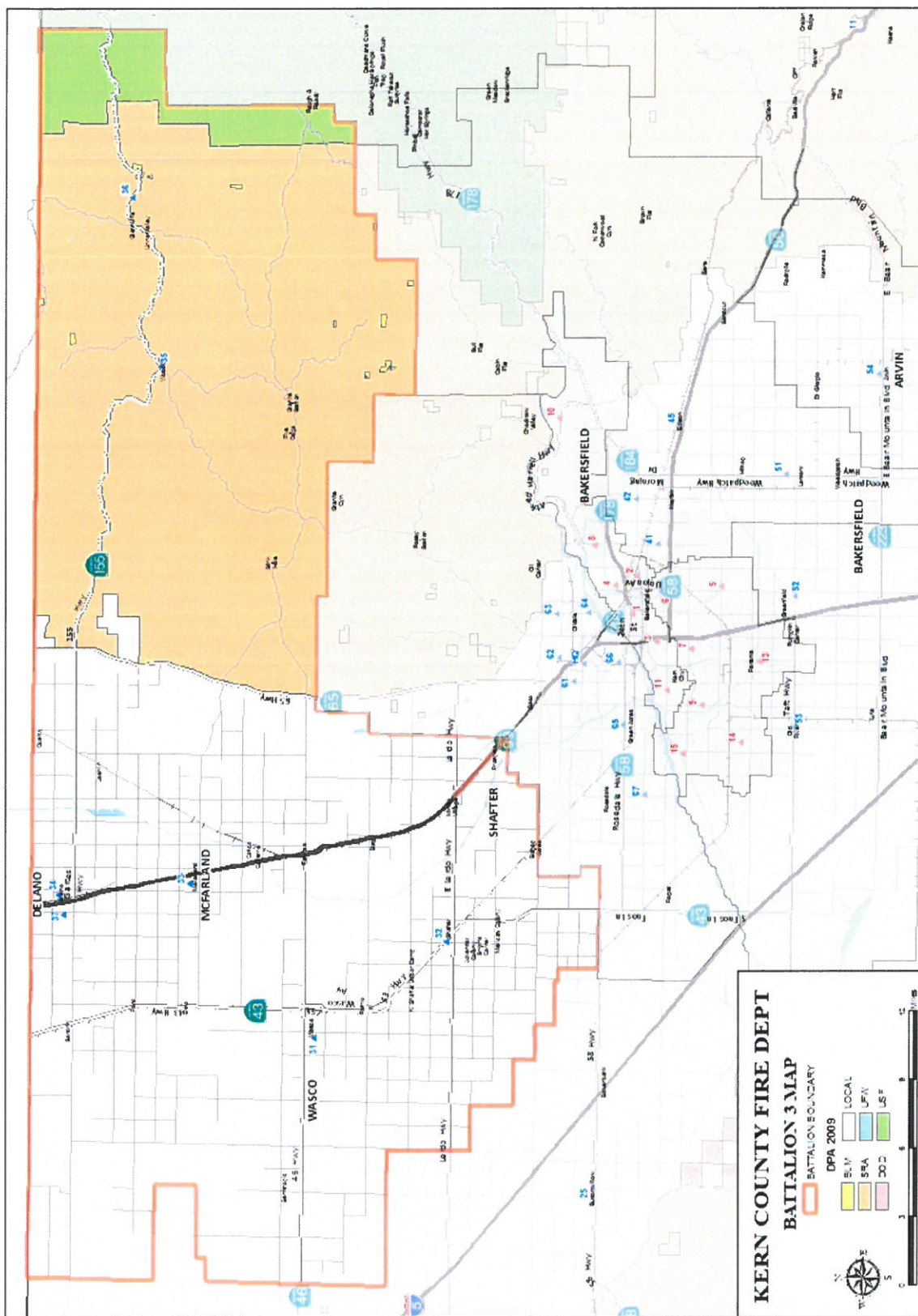
Figure B: Battalion Maps

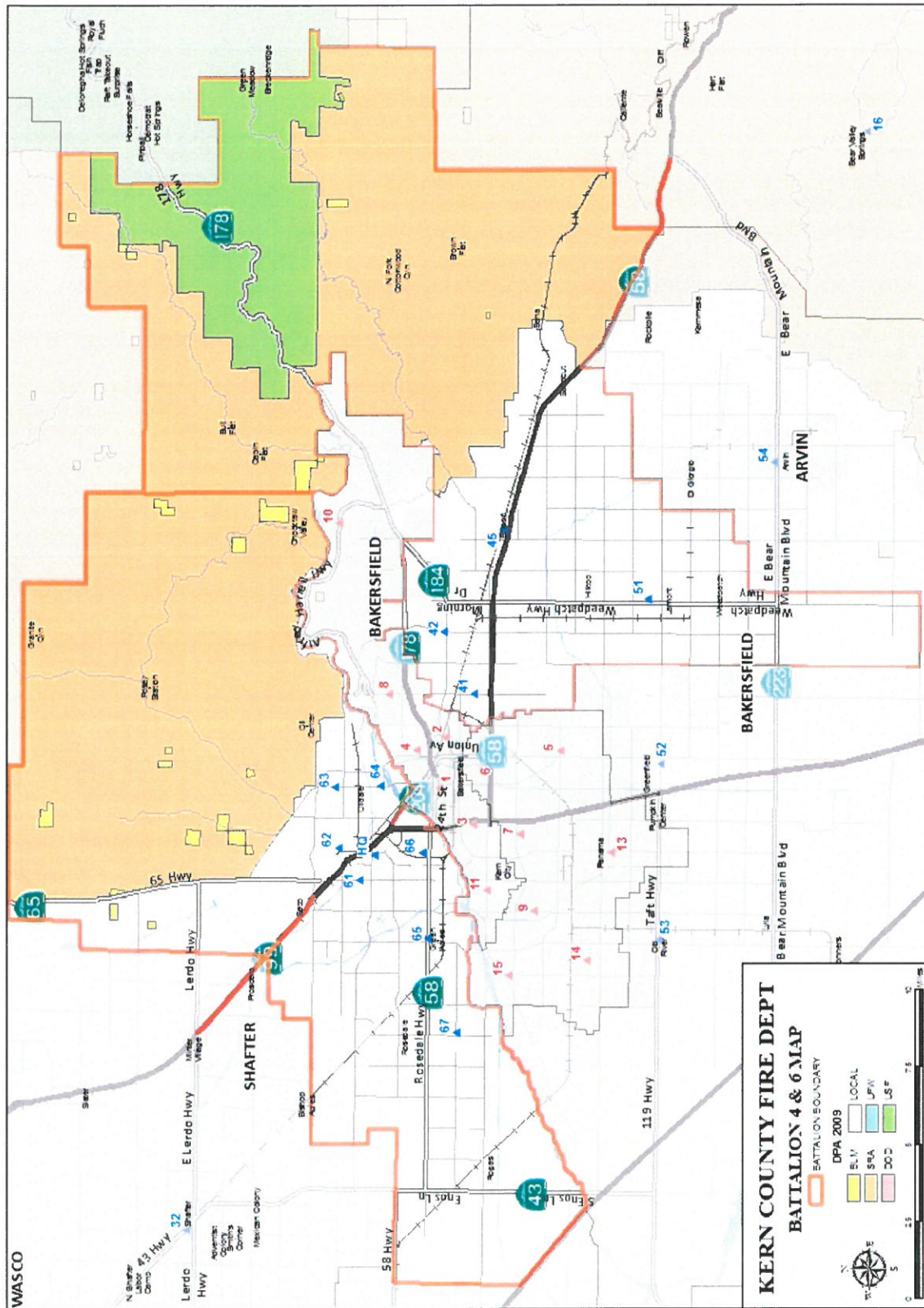


Battalion 1

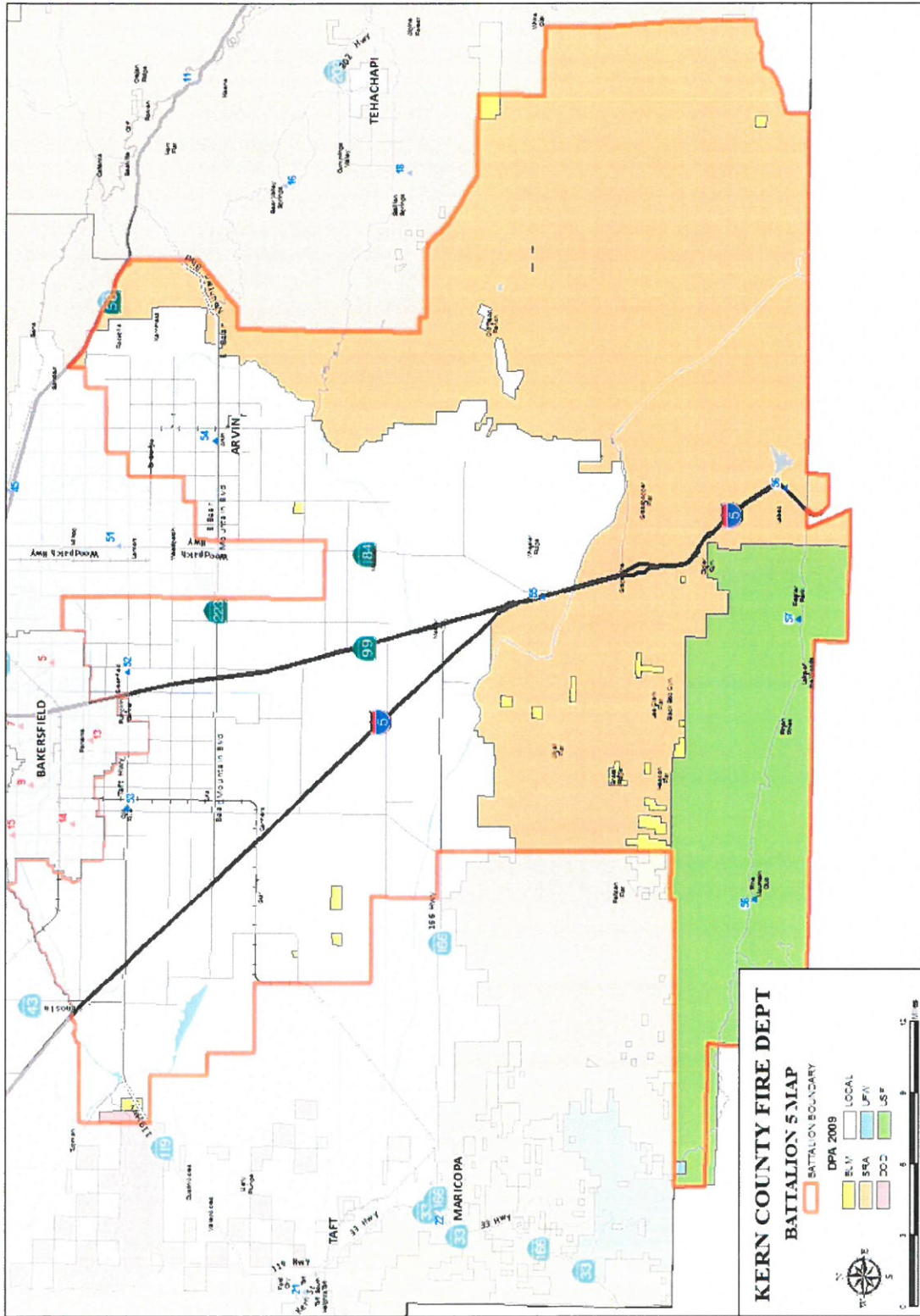


Battalion 2



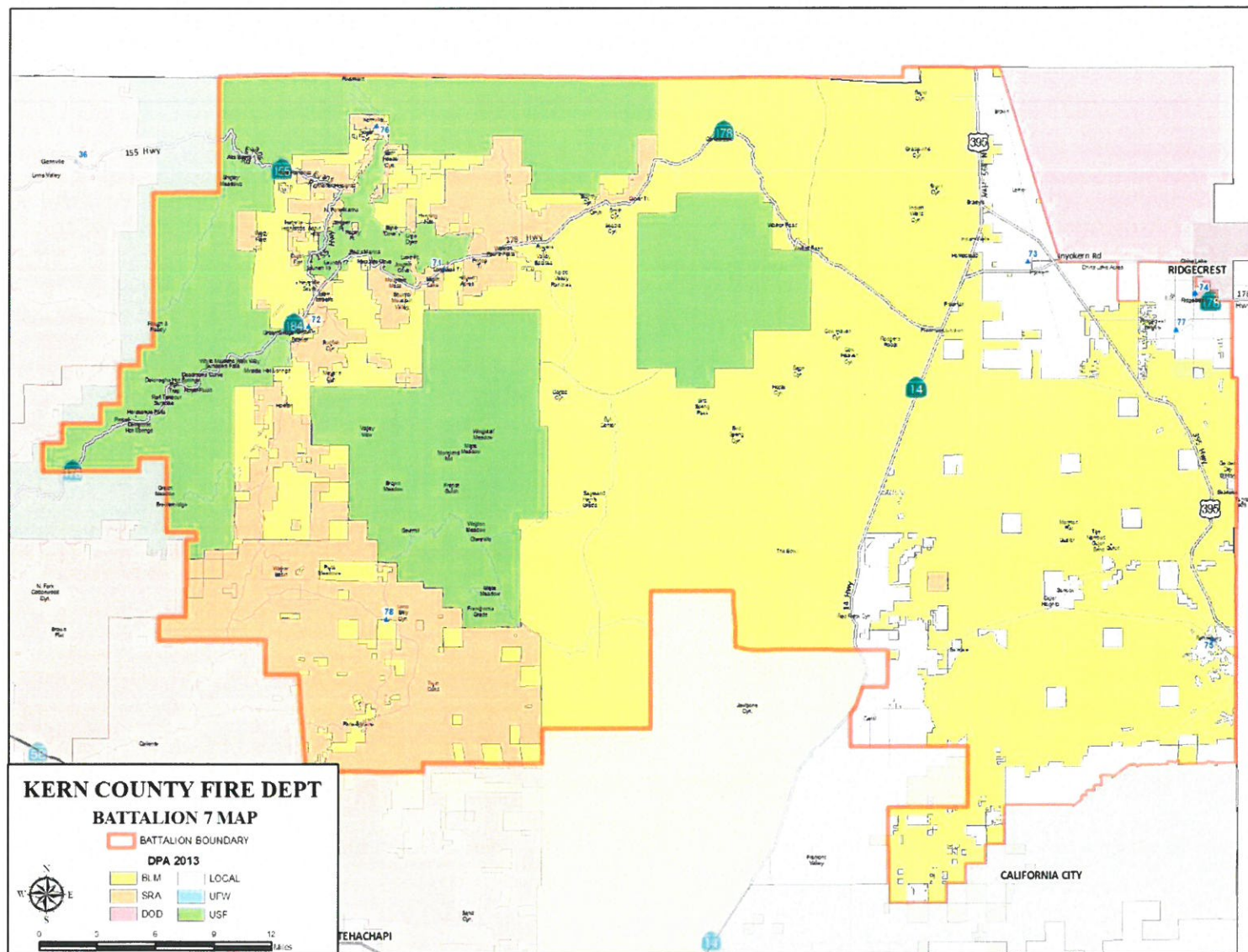


Battalion 4 and 6



Battalion 5

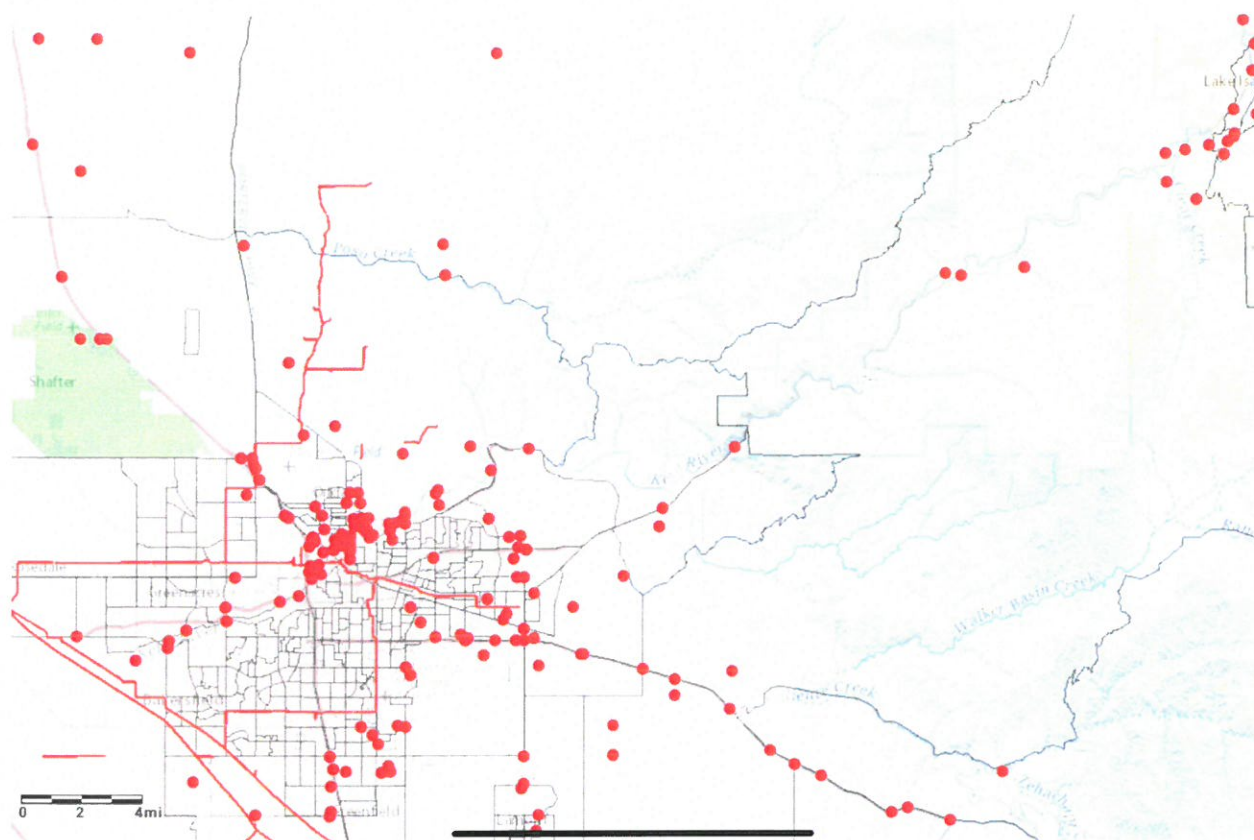
Battalion 7



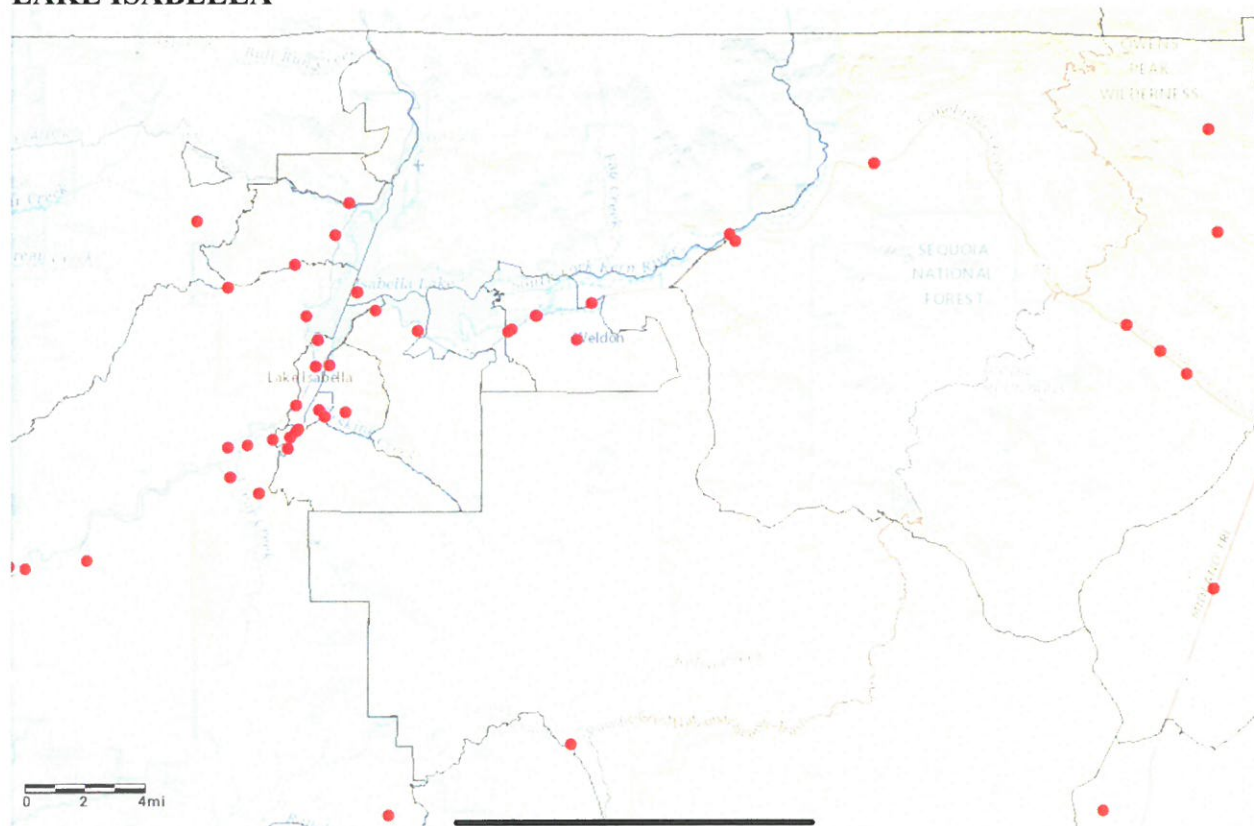
APENDIX D: IGNITIONS

From 1/1/21 to 1/1/22 The Kern County Fire Department recorded 557 confirmed fire starts logged as NFIRS 141, 142, and 143 reports. The following maps show the impacted areas over the last calendar year

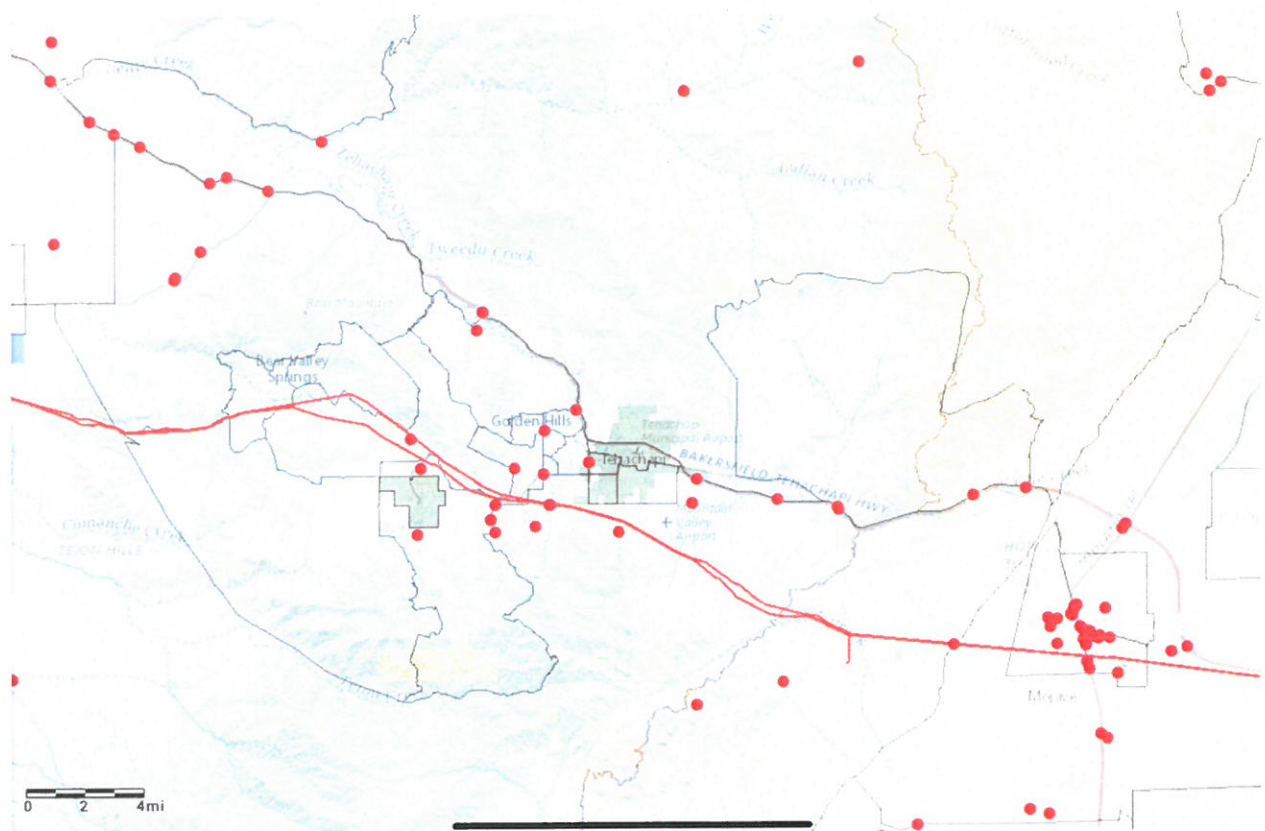
GREATER BAKERSFIELD AREA



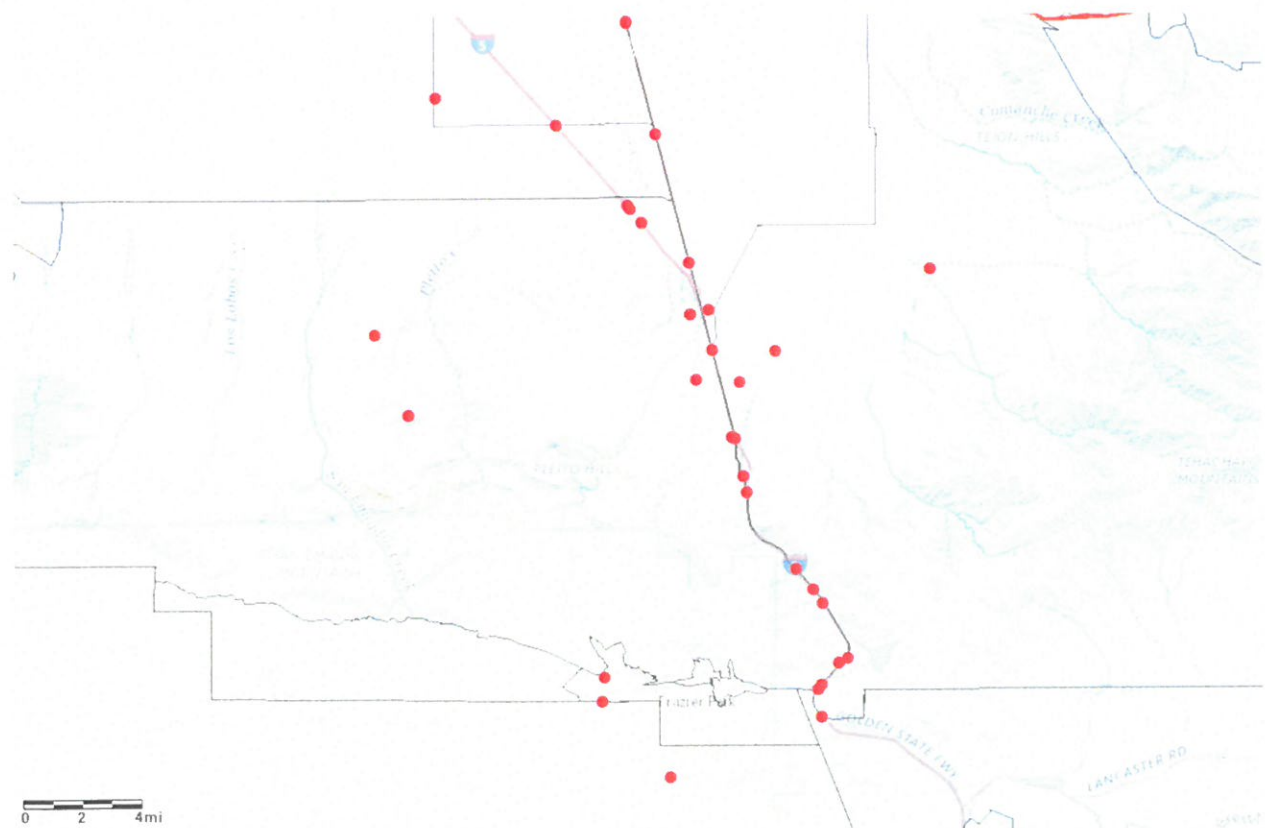
LAKE ISABELLA



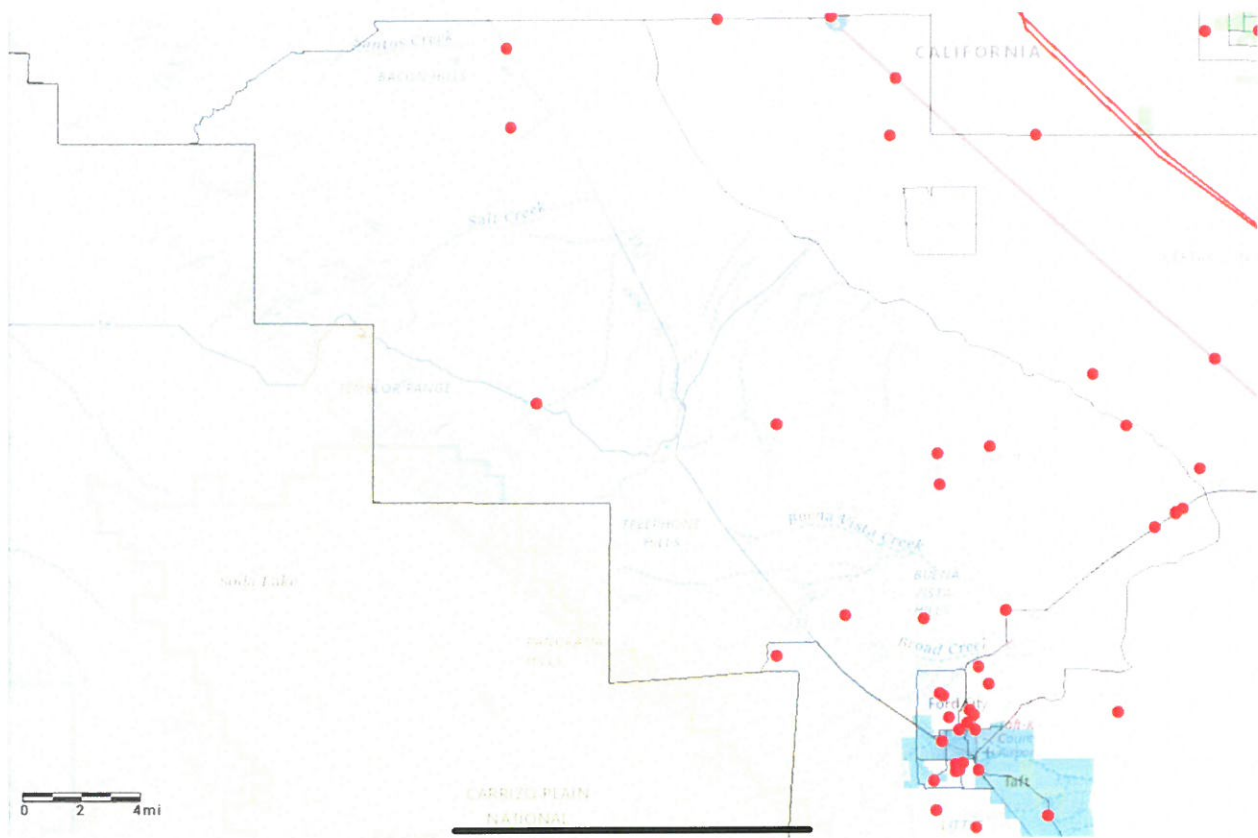
GREATER TEHACHAPI AREA



TEJON RANCH / I5 CORRIDOR



WEST SIDE / TEMBLORS



Summary

Kern County Fire Department has a unique and large wildland fire protection area serving many communities over a very large area. The Kern County Fire Department is continually working with our wildfire hazard communities.

We have effectively established and maintained thousands of acres of fuel reduction projects in and around communities prone to wildland fires. Our involvement also includes chipper days where we provide a chipper and a crew to a community and will remove fuels that have been cut by the residents.

Working with these communities benefits our fire department, keeping us connected with the unique concerns of each area. It also allows us to bring public education and prevention into these areas.

Kern County Battalion 8 has established a wildland fire facility “Camp 8” in Tehachapi. This old elementary school has been converted to facilitate the needs of our wildland fire crews, providing office space work areas for crew operations, and classrooms for continued wildland fire training. This facility can also support large fire camp operations including incident command post and all support needed to run these large operations.

We have established helicopter water dip tanks in our wildland fire communities for many years. Since Kern County has a very dry climate with minimum amounts of natural water sources, these tanks give our firefighting/rescue helicopters a more effective turnaround time that equals more water on a fire faster. We currently have 25 dip tanks that have been strategically placed throughout many of our wildland fire prone communities.

Kern County Battalion 8 has also established a seasonal type 6 engine in the community of Alta Sierra. This has been done to assist in responding to emergency calls due to the large seasonal summer population growth in this area. The engine is staffed with one full time Firefighter and two seasonals. In 2020 there was also a seasonal fuels crew stationed at Alta Sierra working on projects in Battalion 7.

These factors allow the Department to be more effective in fire protection as well as containing and controlling unpredictable wildfires. Our goal is to continue our emphasis on pre fire planning, as well as to continue our involvement with the public through fire safe councils, community events, and hazard reduction education. We will also strive to continue aggressively treating fuels throughout the county with our crews and equipment.

Annual Report of Unit Accomplishments - 2021

- Completion of Kern County CWPP in coordination with SWCA
- Completion of Kern County Cal VTP- PSA in coordination with SWCA
- Completion of The Alta Sierra Fuel Modification Project
- Completion of The Kern River Valley Communities Protection Project
- Conducted “Chipper Days” throughout Kern County.